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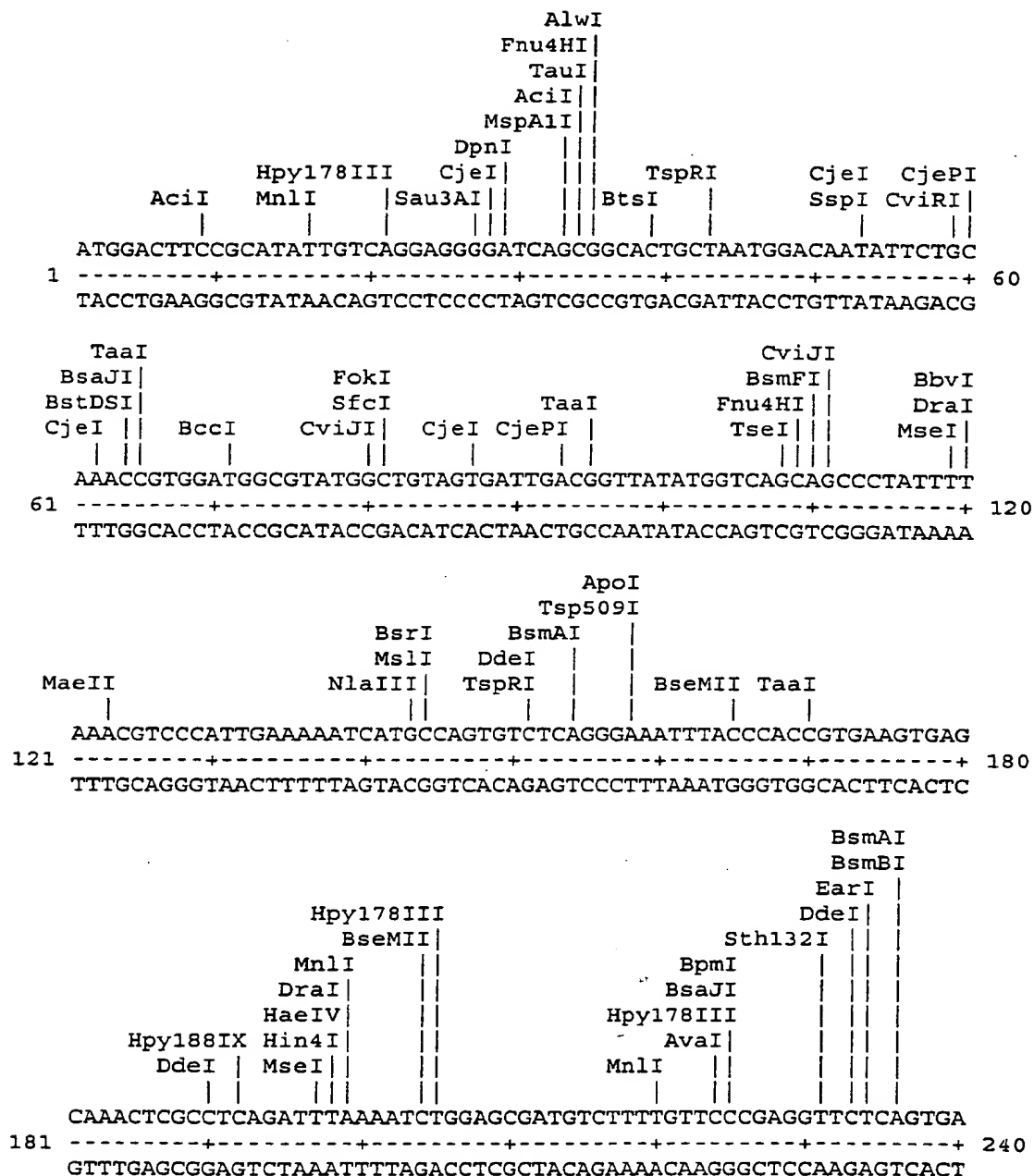
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Figure 1

Restriction enzyme analysis of CPN100686 (RY 54 - SEQ ID NO. 1)



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Figure 1 (Continued)

DpnI
 EarI |
 Sau3AI |
 Hpy188IX | |
 MboII | | |
 DpnI | | | |
 BseMII | | | |
 Hin4I | | | |
 Sau3AI | | | |
 MboII | | | |
 TspRI | | | | |
 BplI |
 RsaI
 BsrGI |
 TatI |
 NlaIII
 NspI
 SphI
 DdeI
 Cac8I |
 | | | | |
 AGAGACGATCTCTTCTGATCTTGGGAAAAACAATGTACACAAGGCATTATCTCAGCATG
 241 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ 300
 TCTCTGCTAGAGAAGACTAGAACCCCTTTTTGTTACATGTGTTCCGTAATAGAGTCGTAC

 BseMII
 CviJI
 BsrDI
 MnlI
 HgaI
 AceIII
 Sth132I
 Hin4I |
 BsaHI | |
 | | |
 CTGTGGCTTGGCAATGCTTATTGTTTTGATGAGCGTATATTATAGATTTGGAGGCGTCAT
 301 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 360
 GACACCGAACCGTTACGAATAACAAACTACTCGCATATAATATCTAAACCTCCGCAGTA

 AluI
 CviJI
 MboII |
 MwoI |
 Hpy178III |
 HinfI
 TfiI
 Hpy188IX |
 | |
 CGCTTCGGGAGCTGTTCTTCTGAATCTTTTGCTTATCTGGGCAGCTCTACAGTATTTGGA
 361 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 420
 GCGAAGCCCTCGACAAGAAGACTTAGAAAACGAATAGACCCGTCGAGATGTCATAAACCT

 HinfI
 Hpy178III |
 PleI | |
 HhaI
 CjeI | |
 HphI |
 FokI | | |
 | | | |
 TGCGCCACTCACCTTGTCAGGACTCGCTGGGATTGTTCTTGCTATGGGGATGGCCGTAGA
 421 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 480
 ACGCGGTGAGTGGAACAGTCCTGAGCGACCCTAACAAGAACGATACCCCTACCGGCATCT

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Figure 1 (continued)

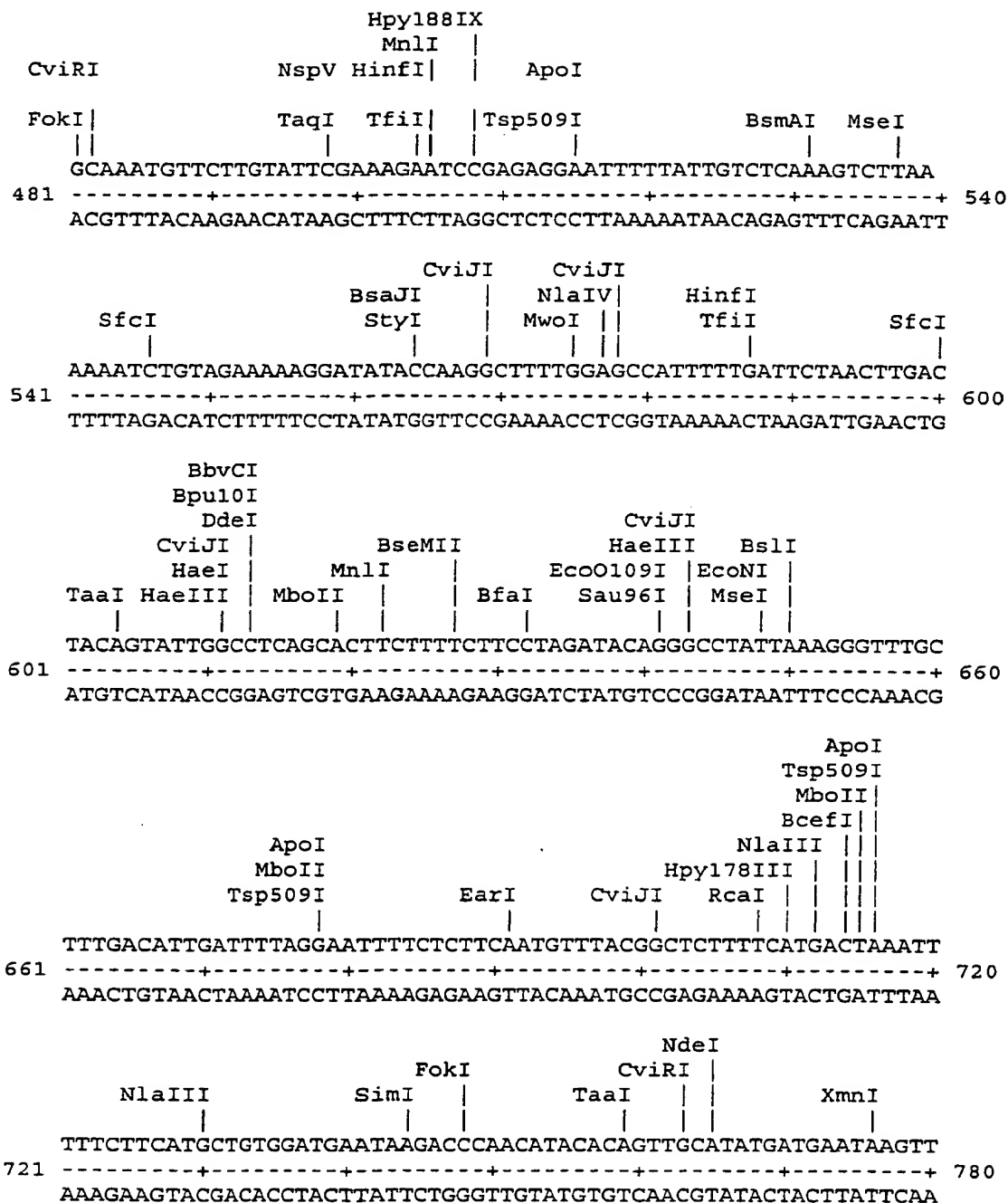
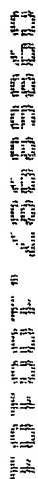
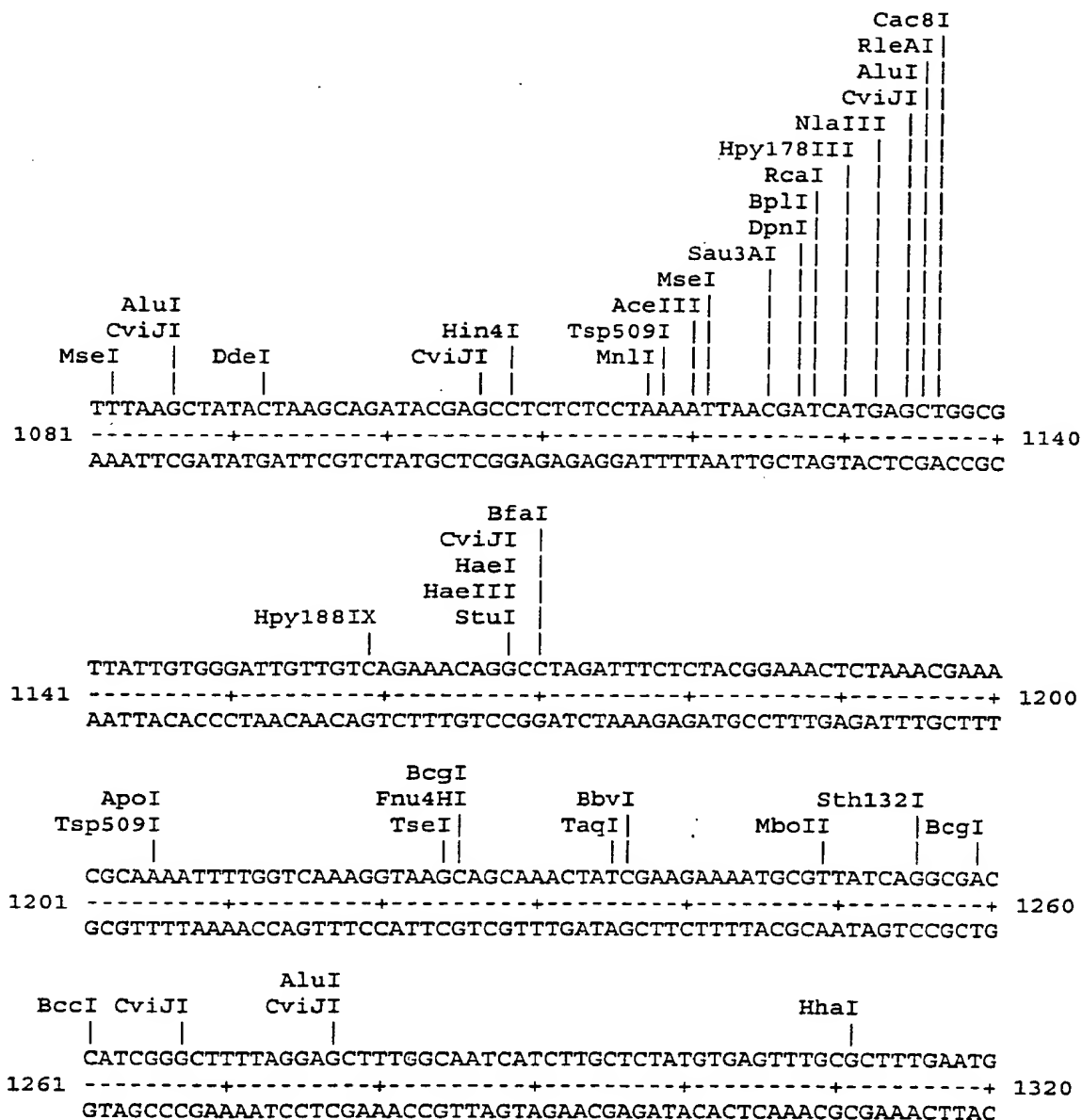


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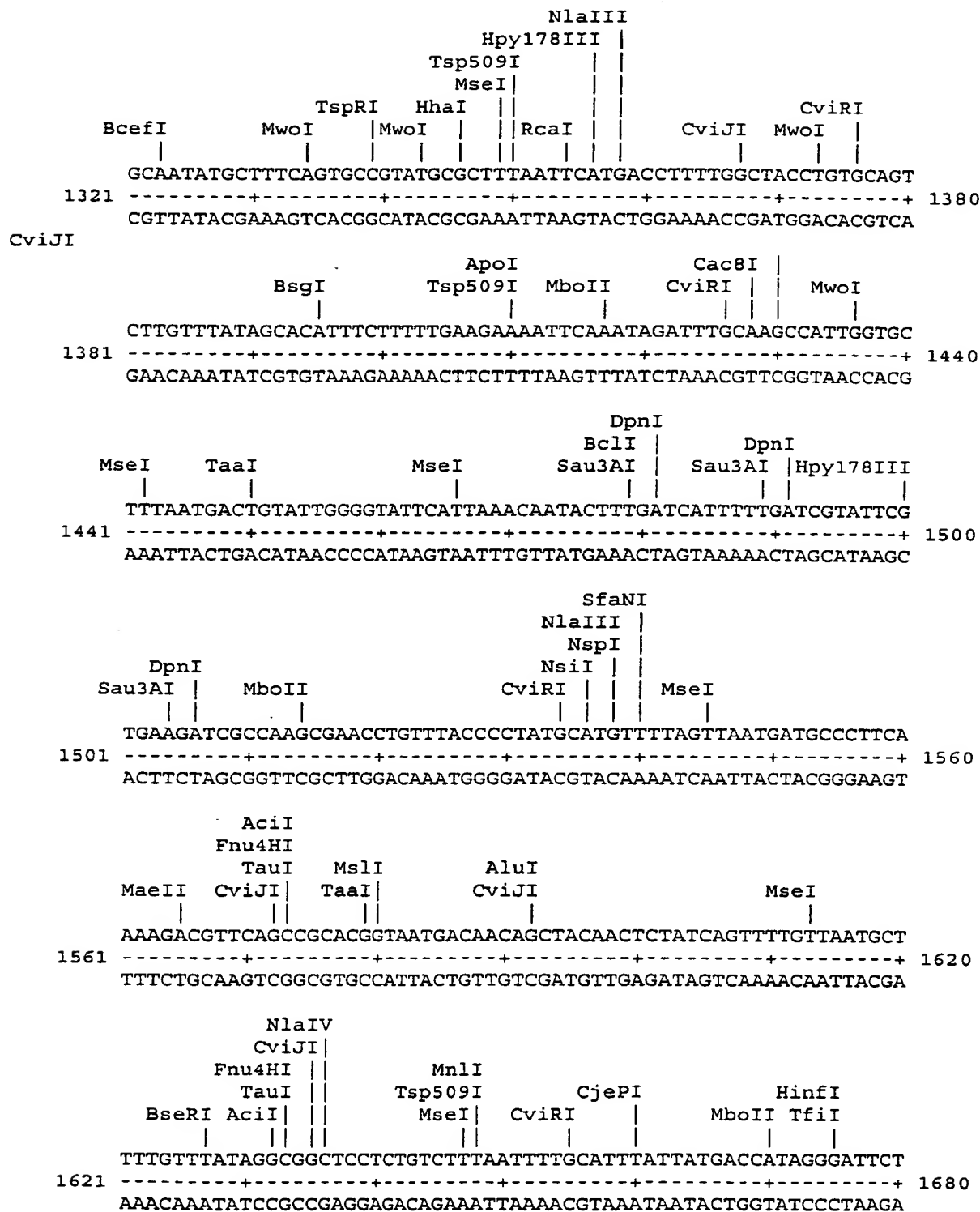
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Figure 1 (continued)



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Figure 1 (continued)



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Figure 2

Restriction enzyme analysis of CPN100696 (RY 55 - SEQ ID NO. 2)

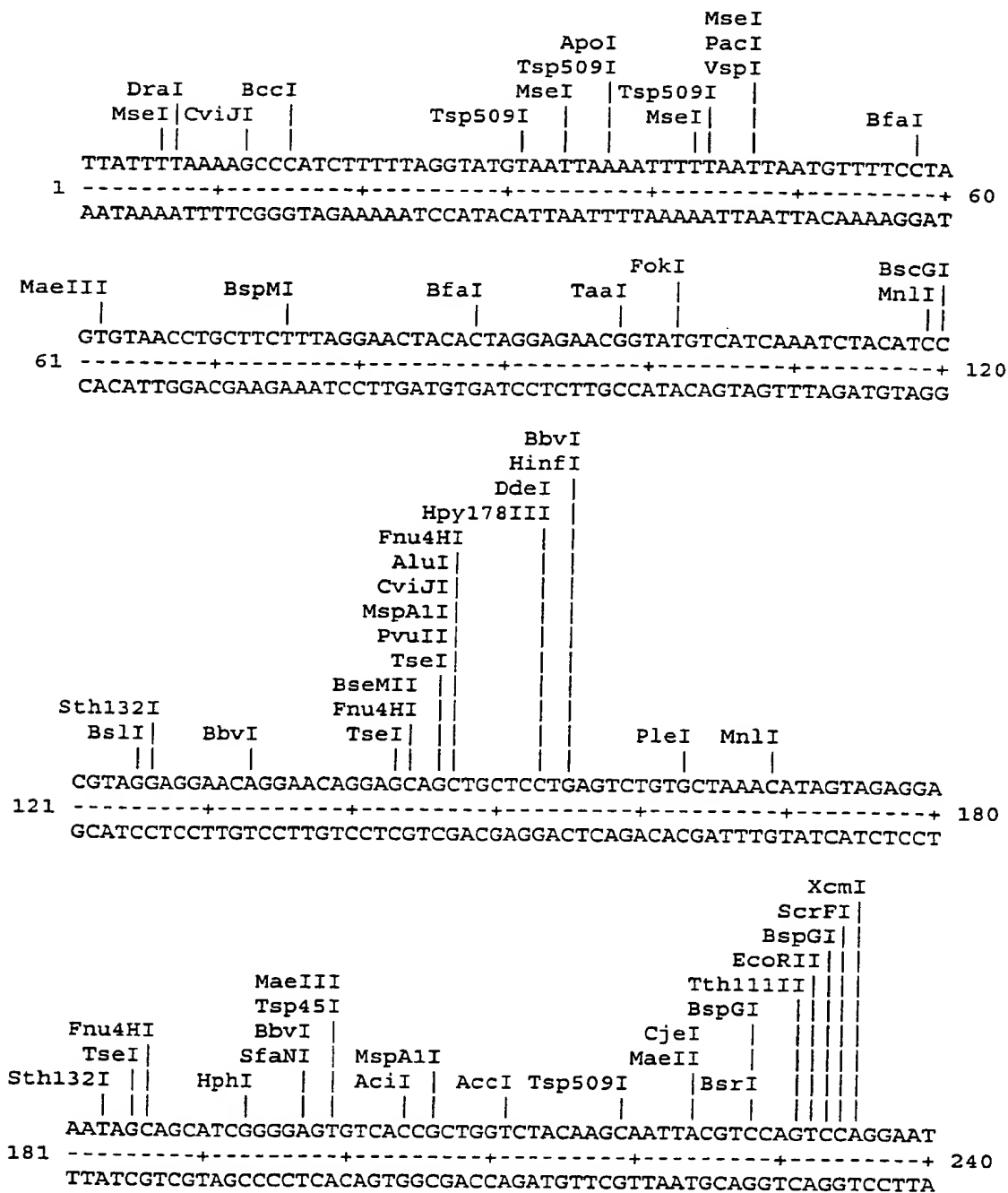
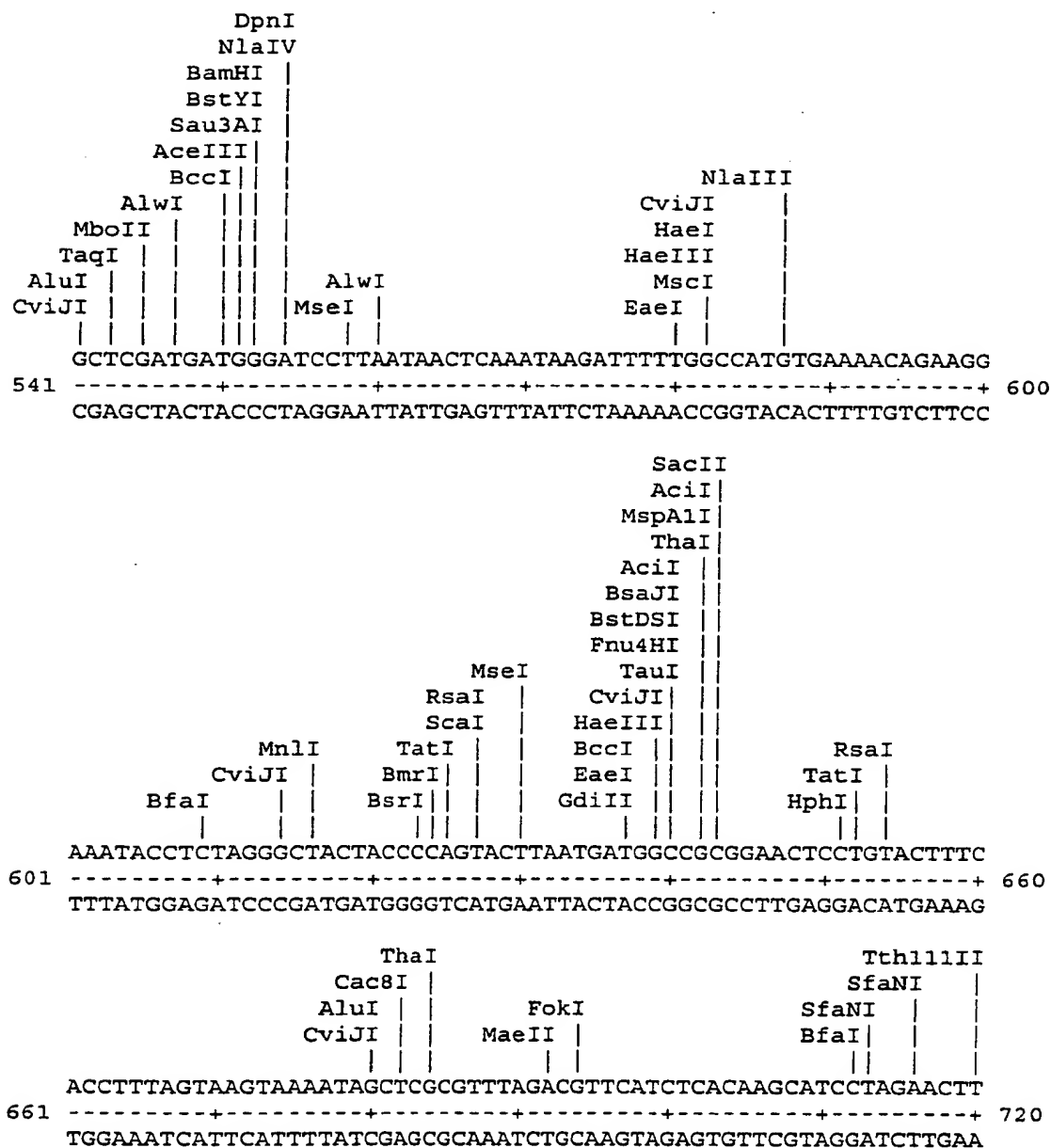


Figure 2 (continued)

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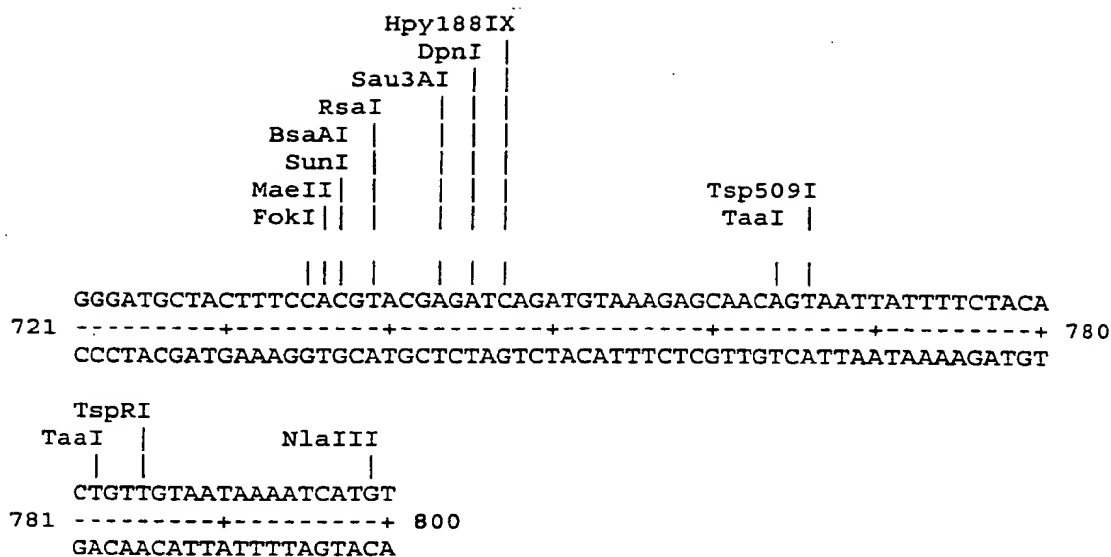
10/96

Figure 2 (continued)



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Figure 2 (continued)

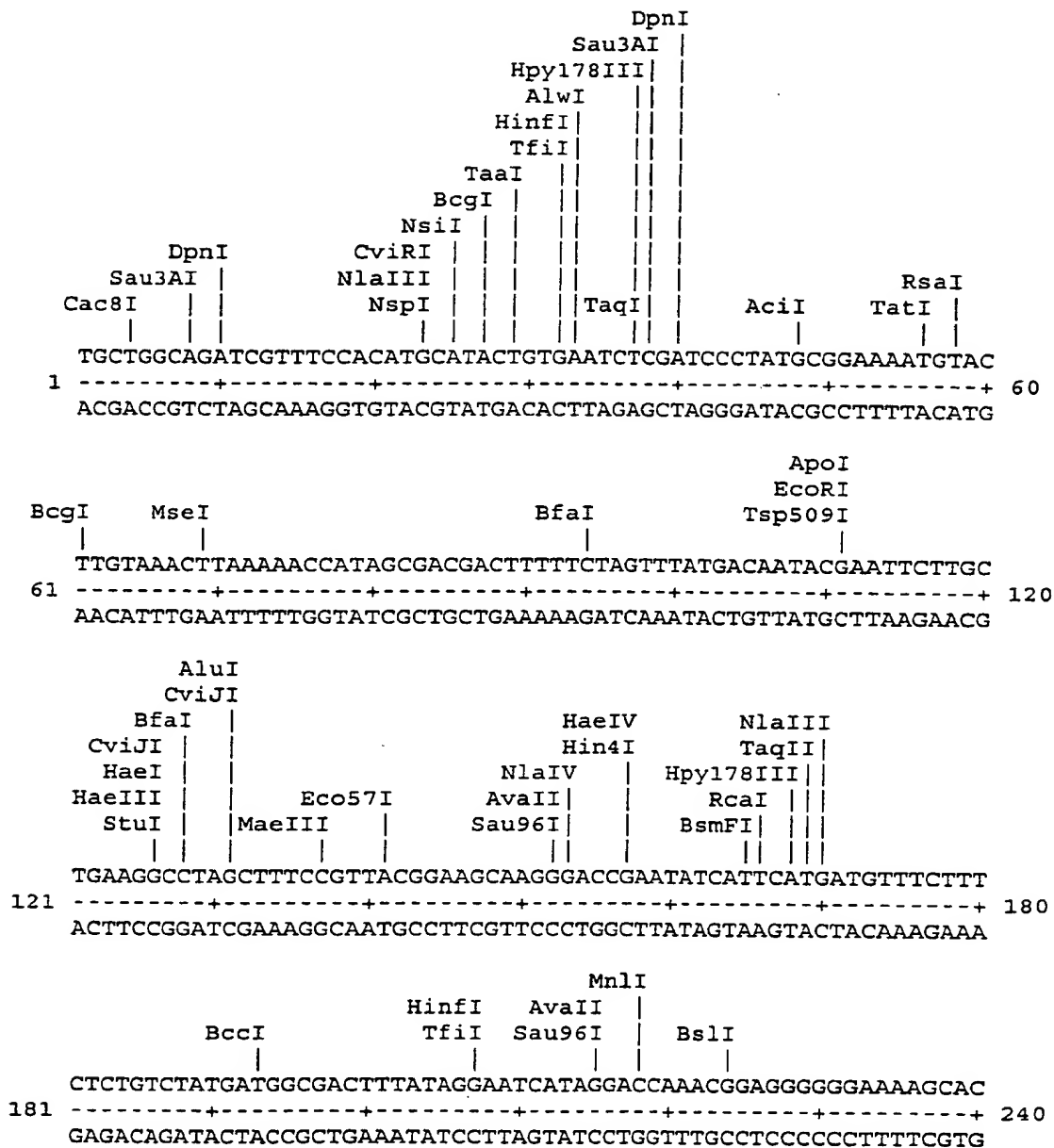


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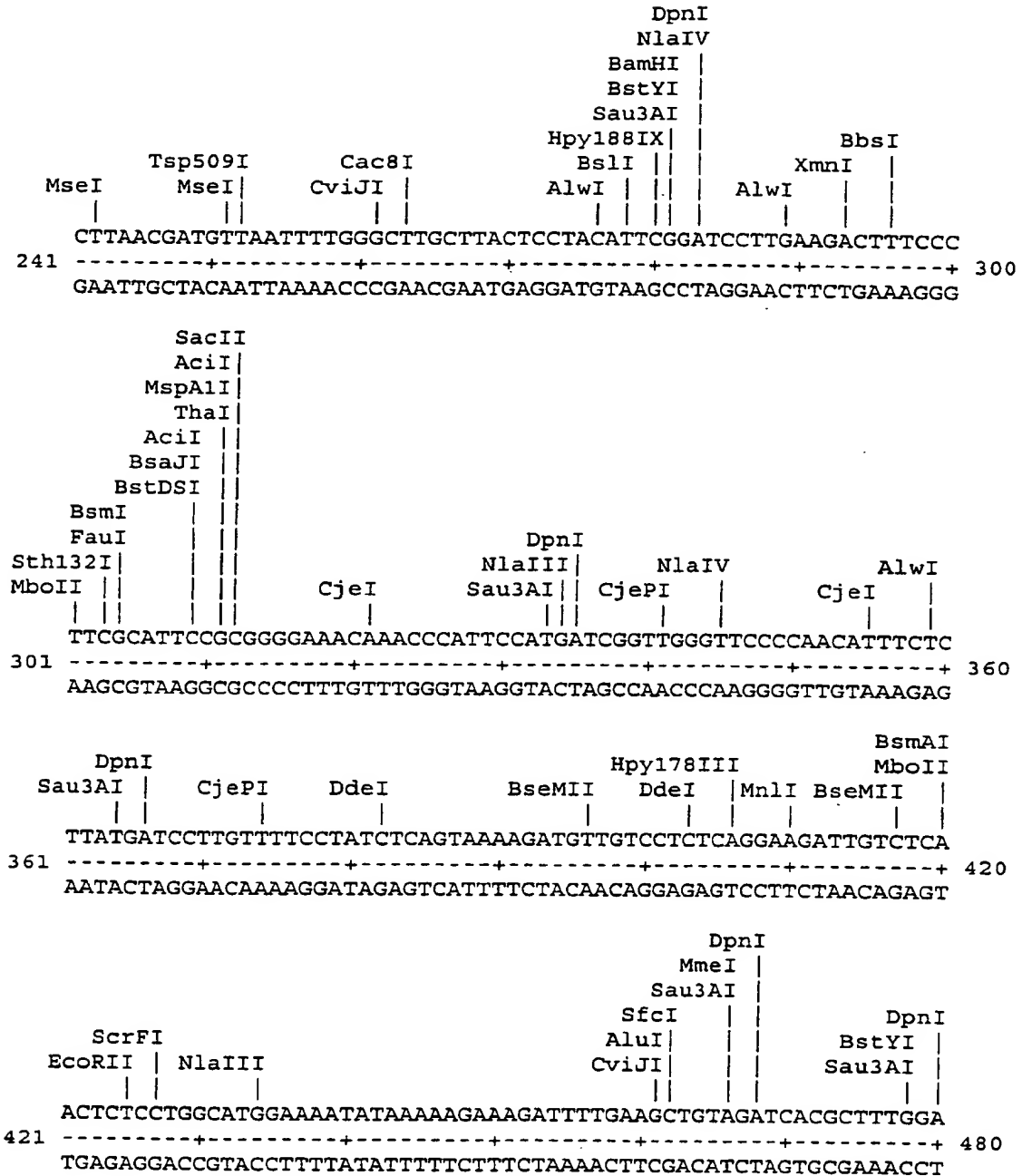
Figure 3

Restriction enzyme analysis of CPN100709 (RY 57 - SEQ ID NO. 3)



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Figure 3 (continued)



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Figure 3 (continued)

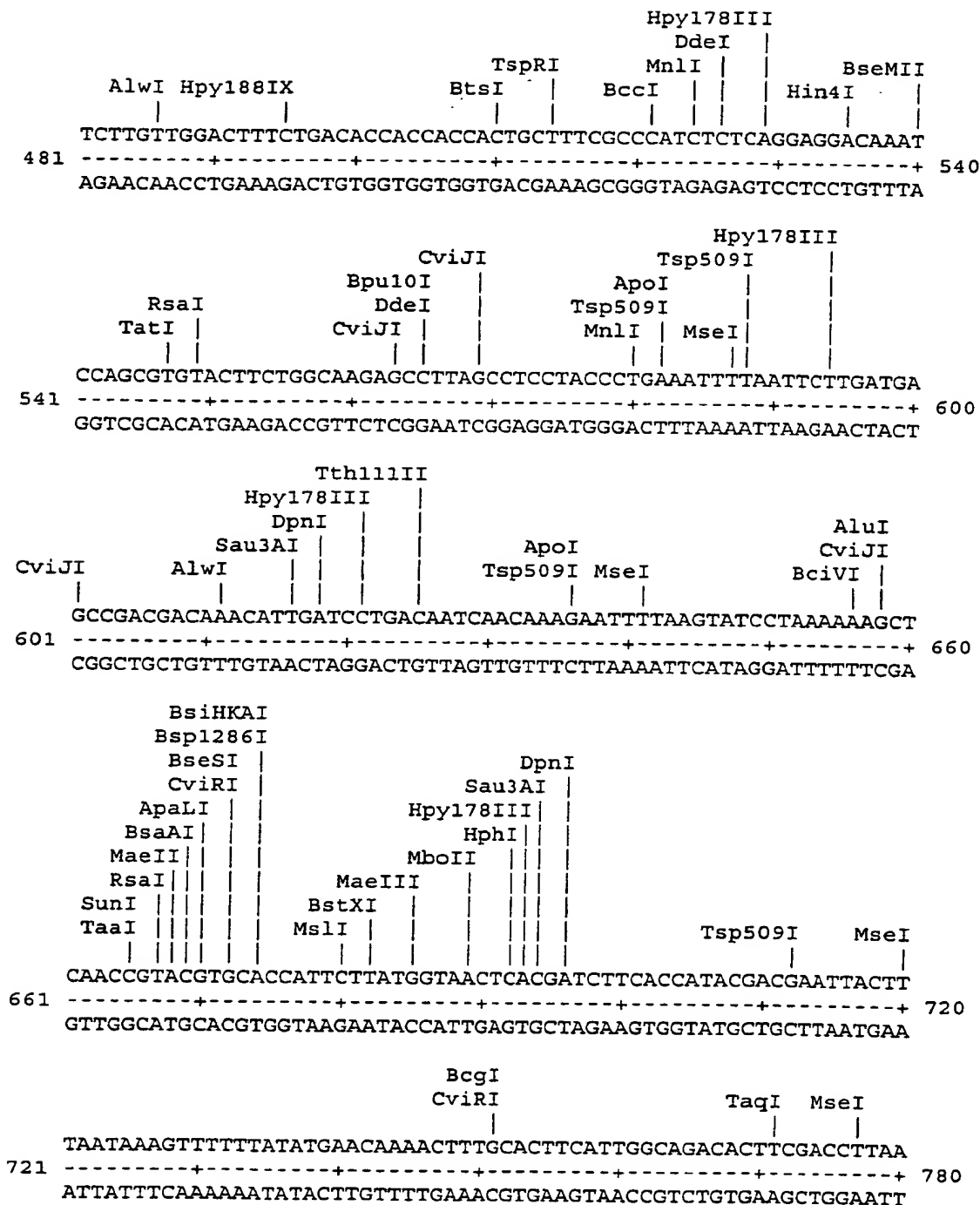
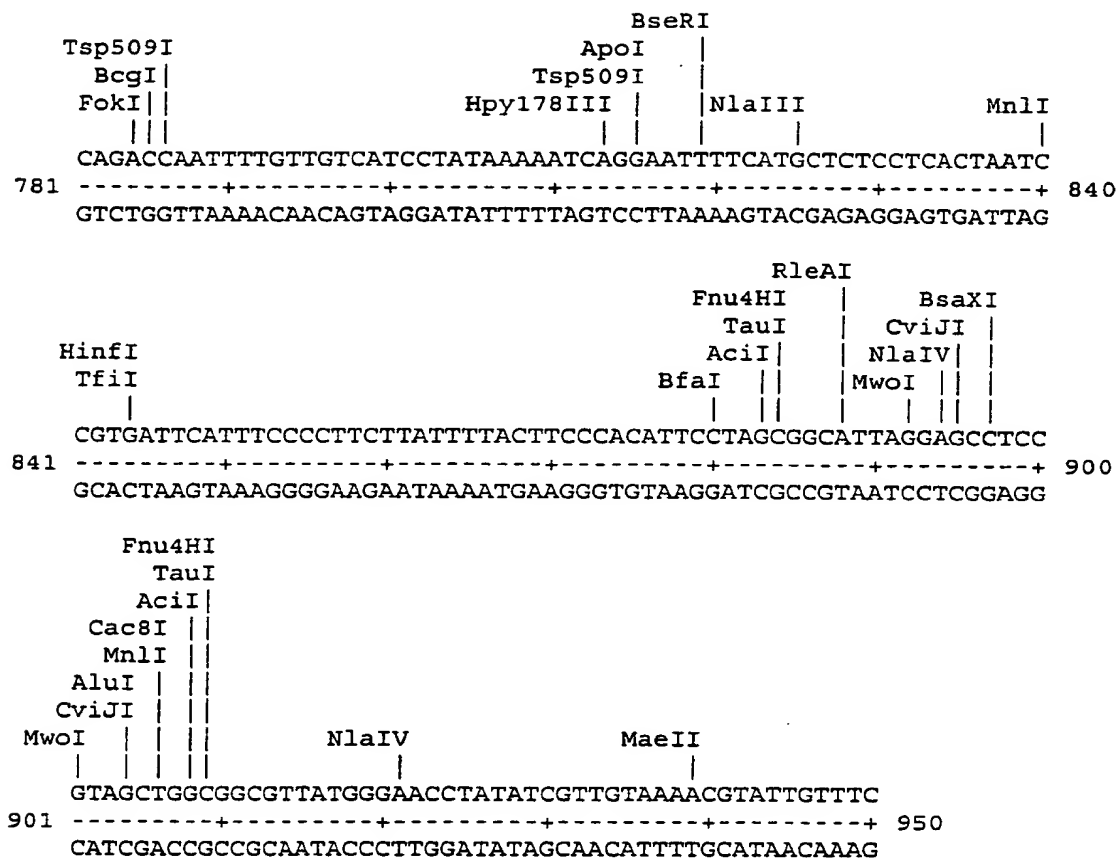


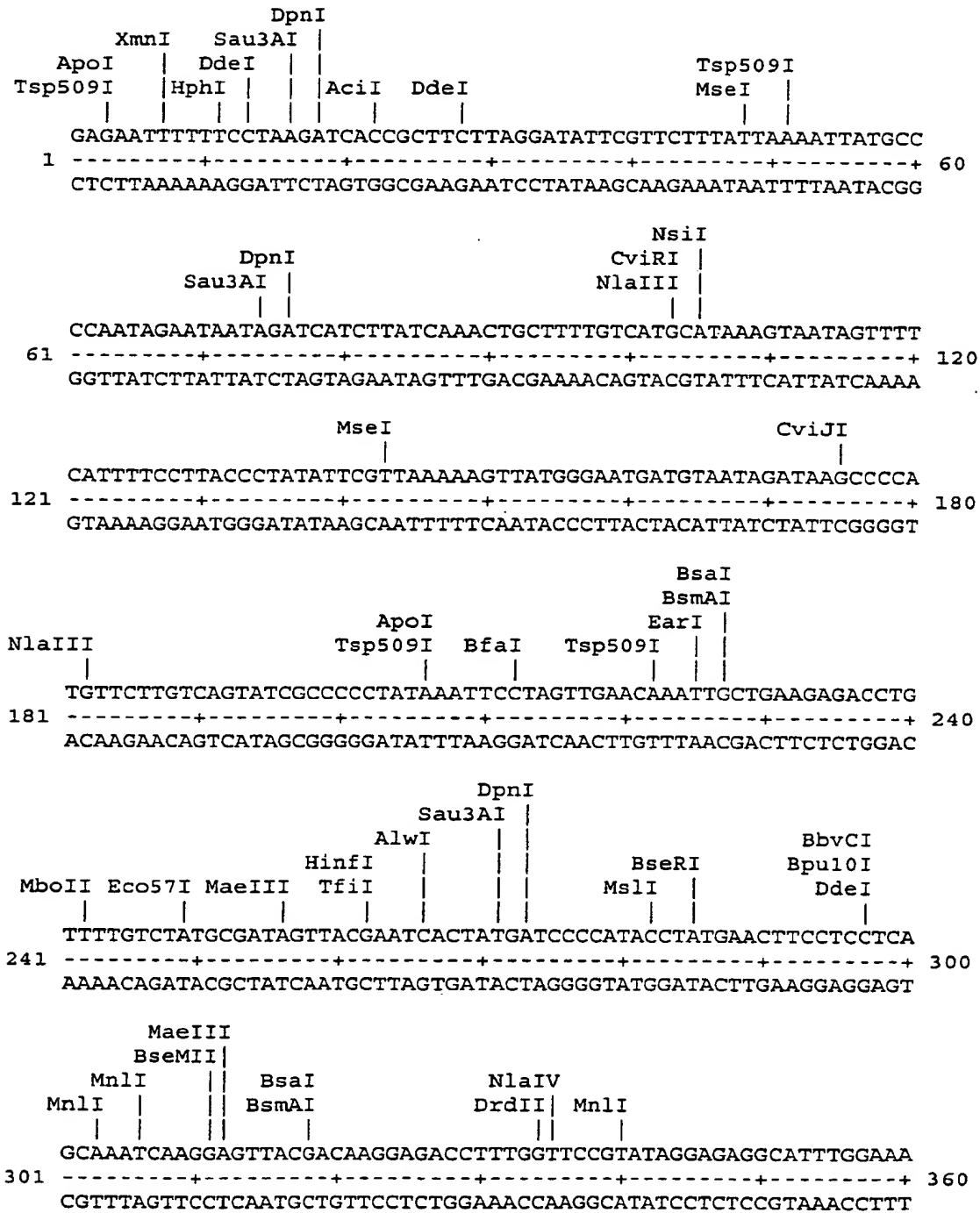
Figure 3 (continued)



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Figure 4

Restriction enzyme analysis of CPN100710 (RY 58 - SEQ ID NO. 4)



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Figure 4 (continued)

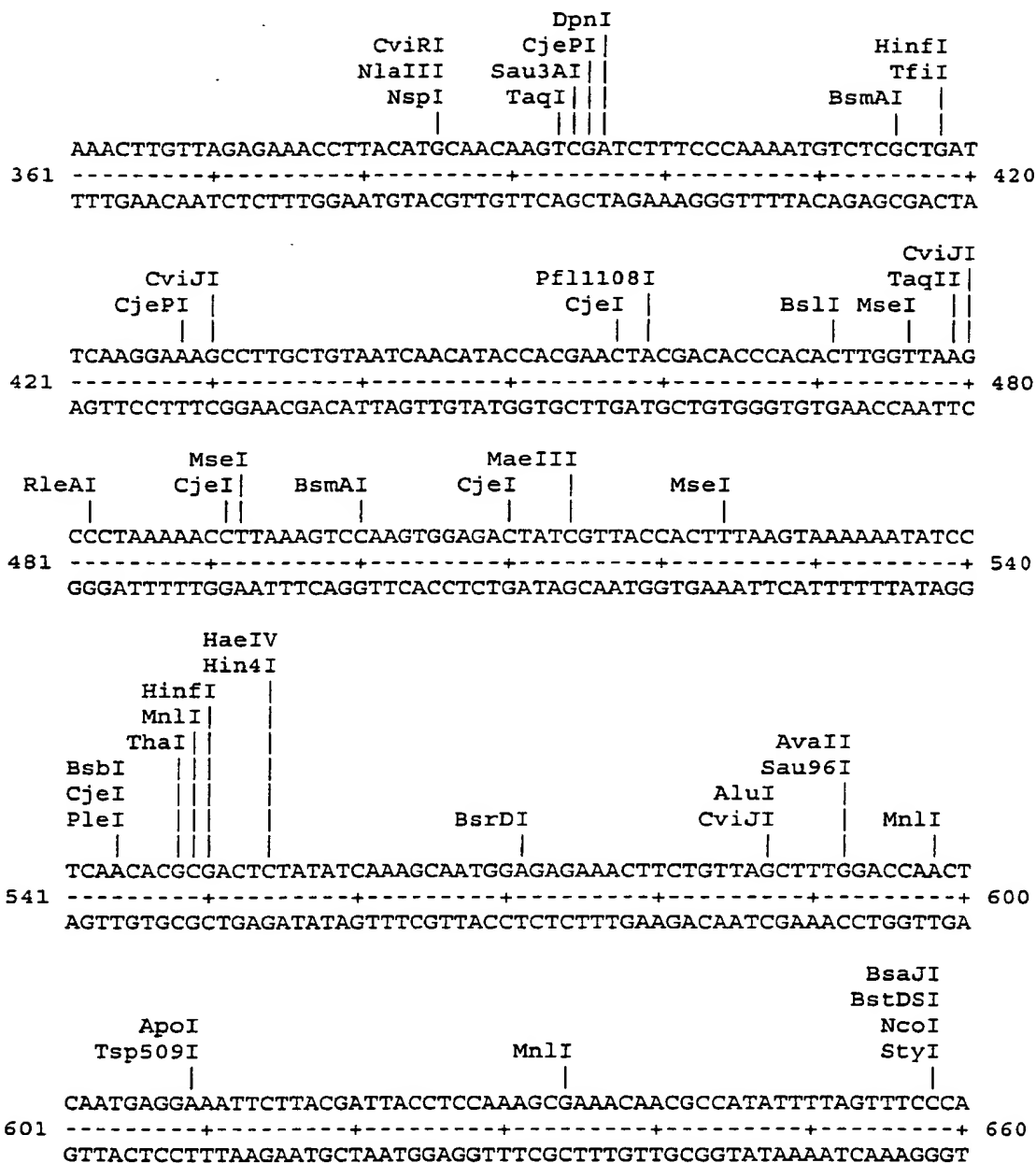
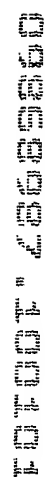
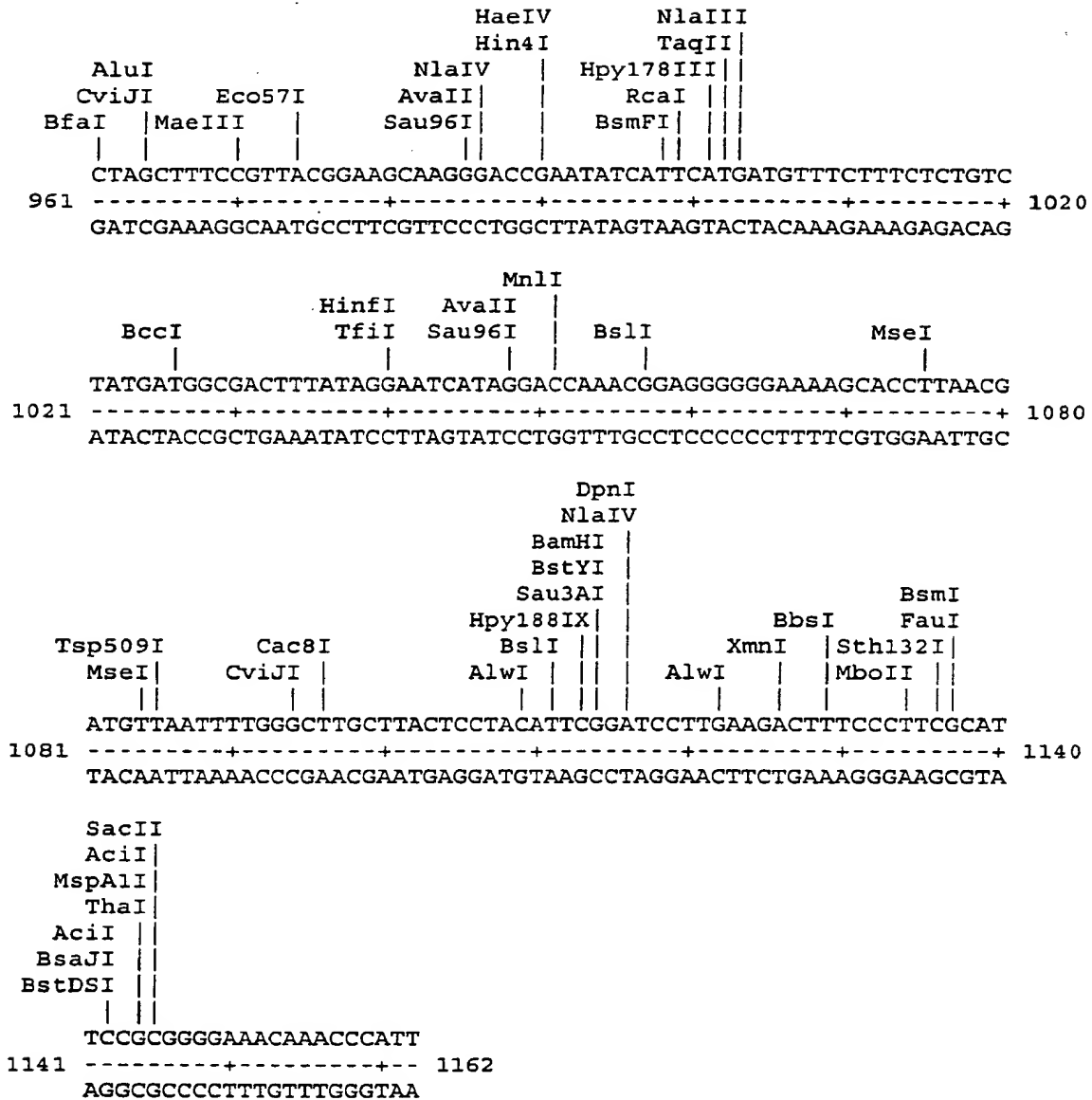


Figure 4 (continued)



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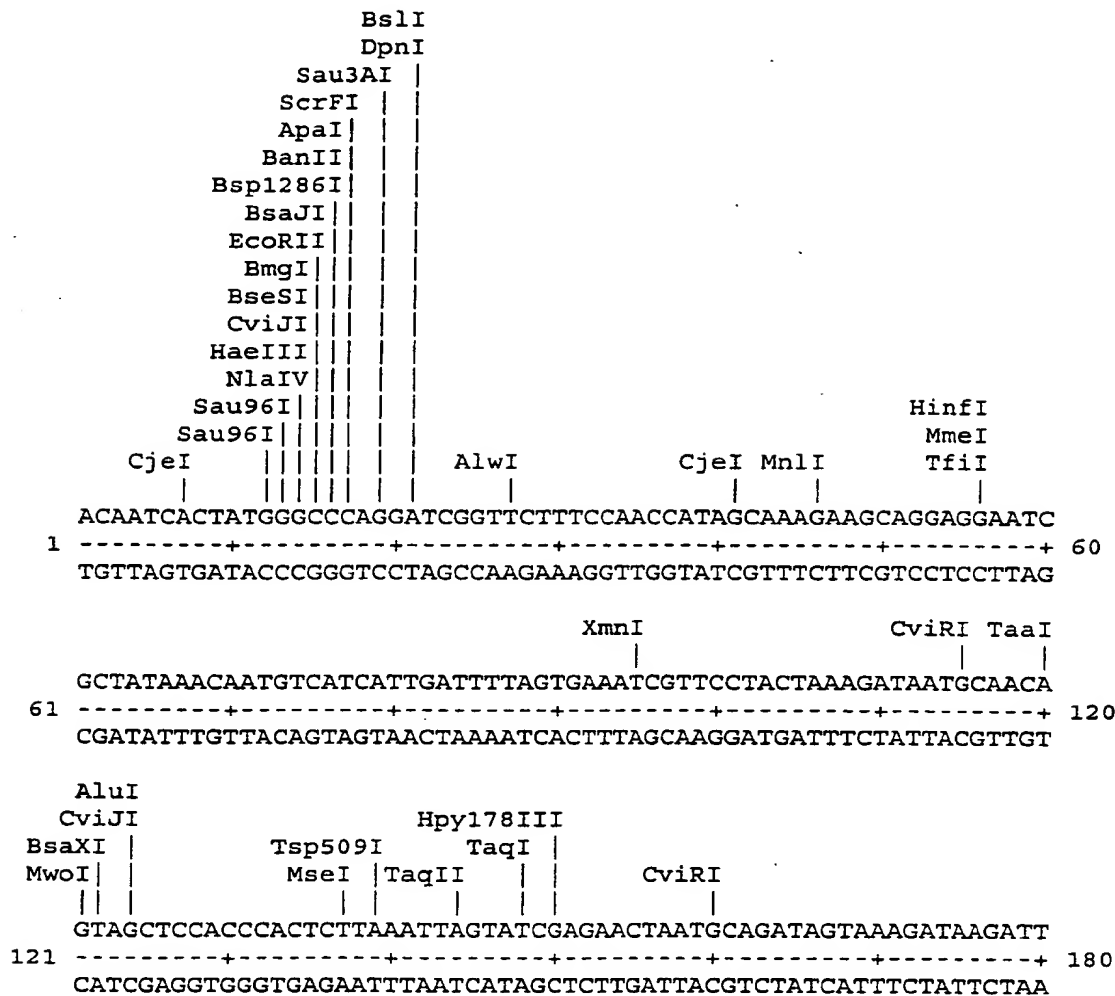
Figure 4 (continued)



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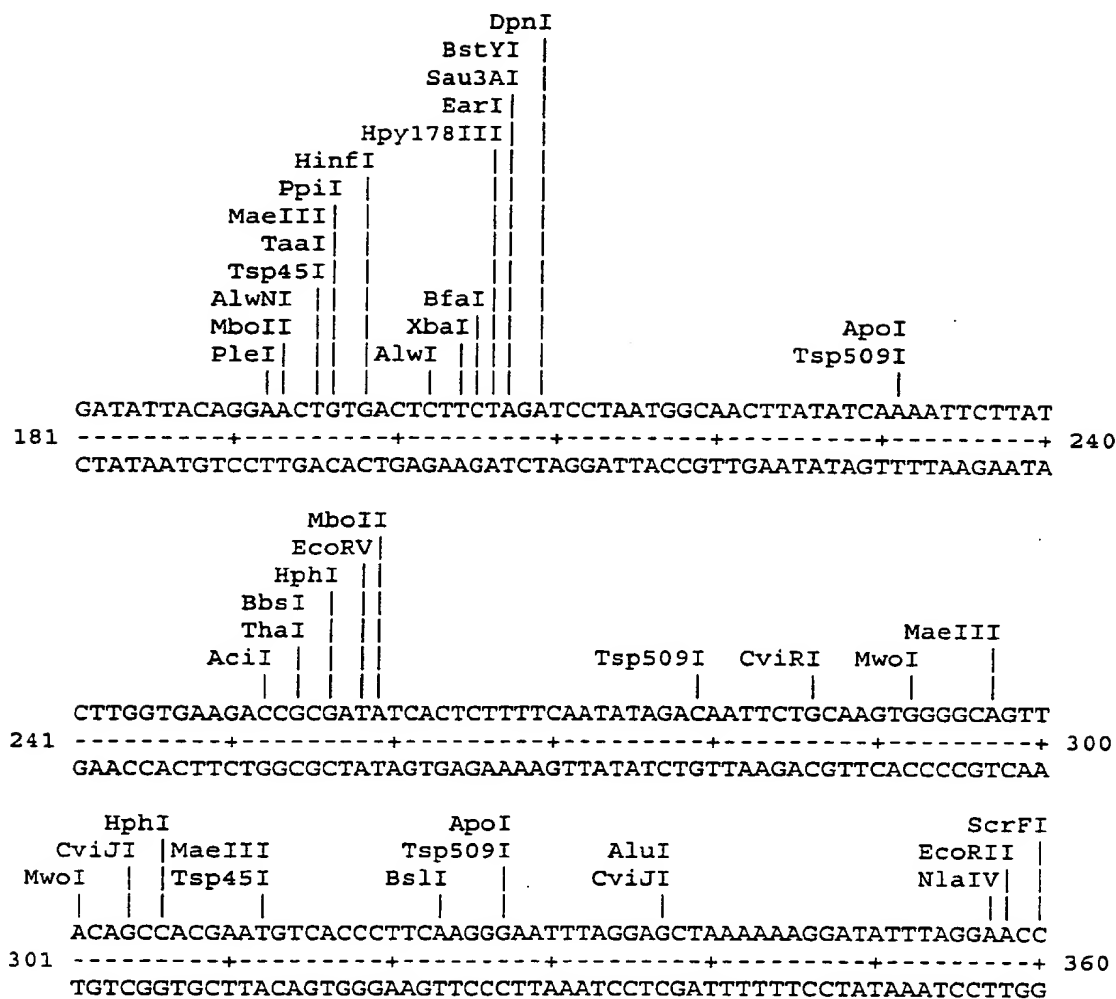
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Restriction enzyme analysis of CPN100711 (RY 59 - SEQ ID NO. 5)



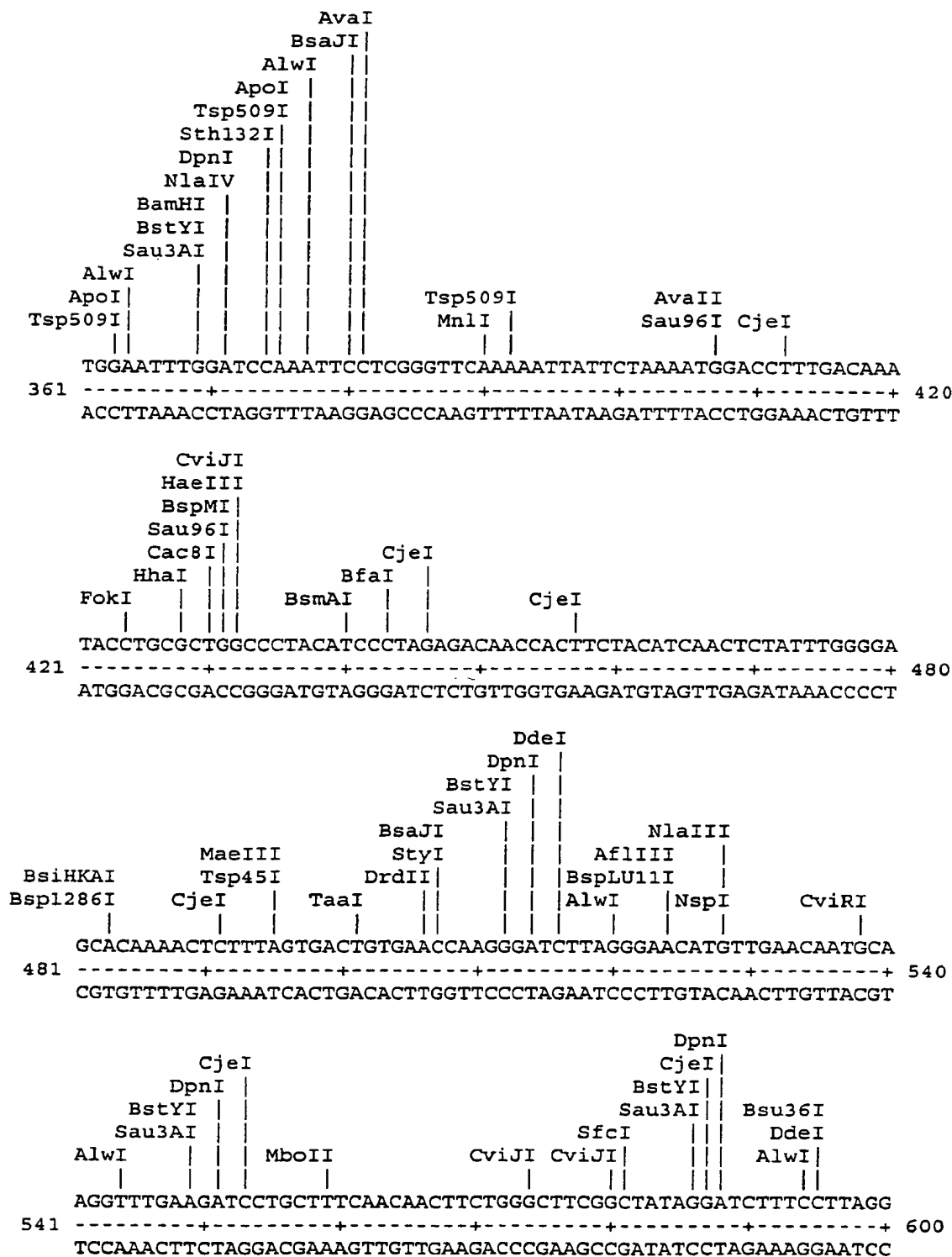
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Figure 5 (continued)



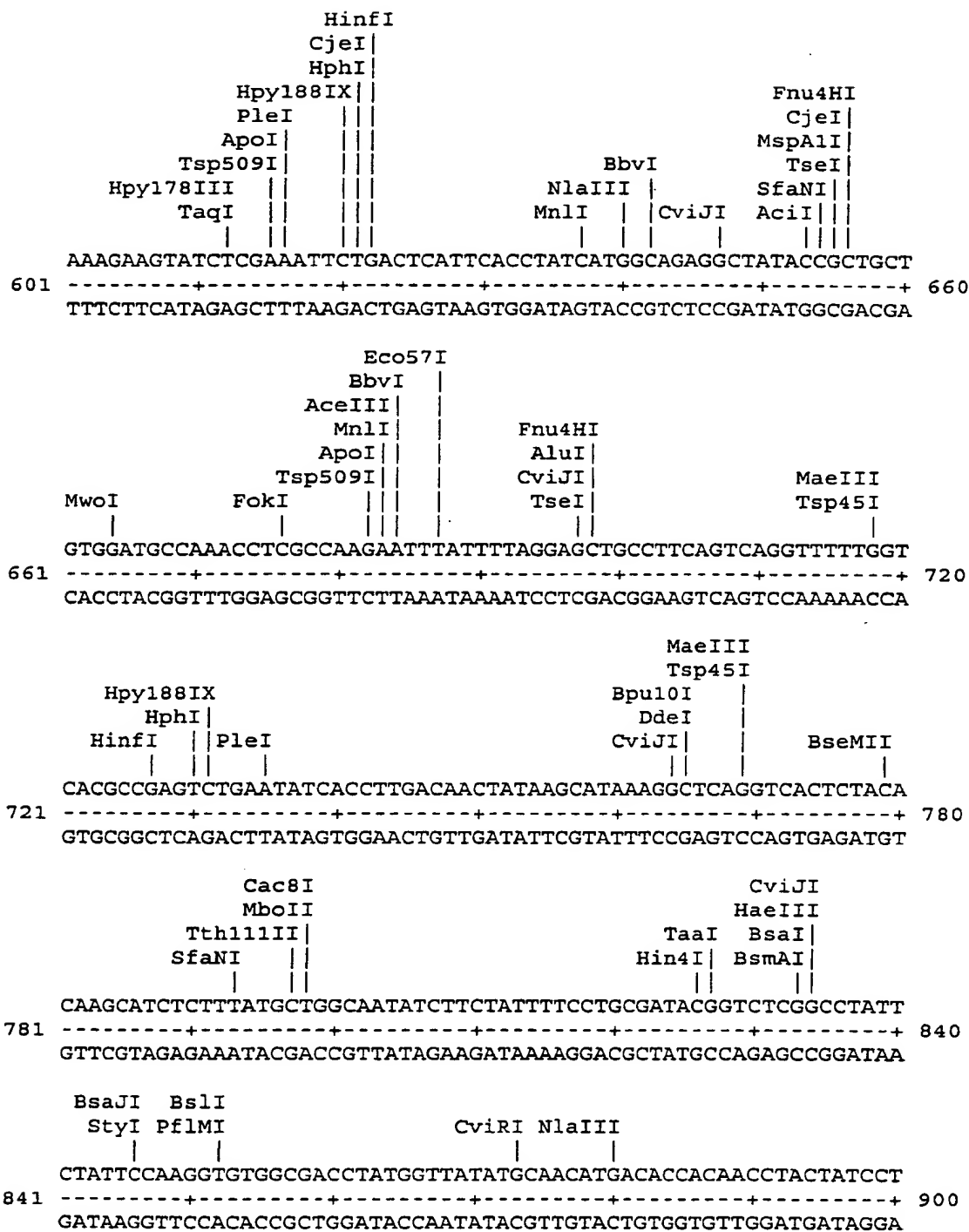
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Figure 5 (continued)



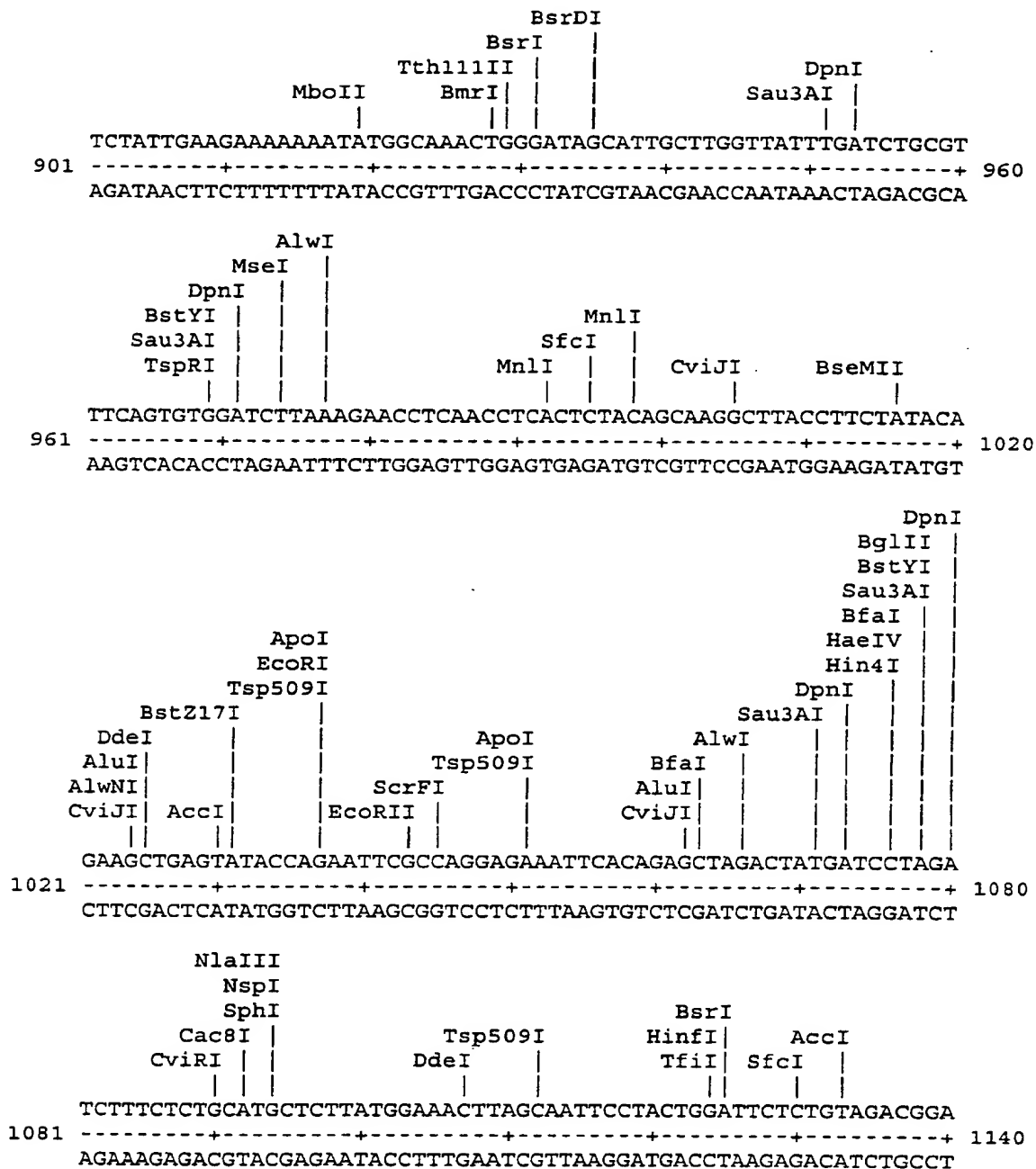
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Figure 5 (continued)



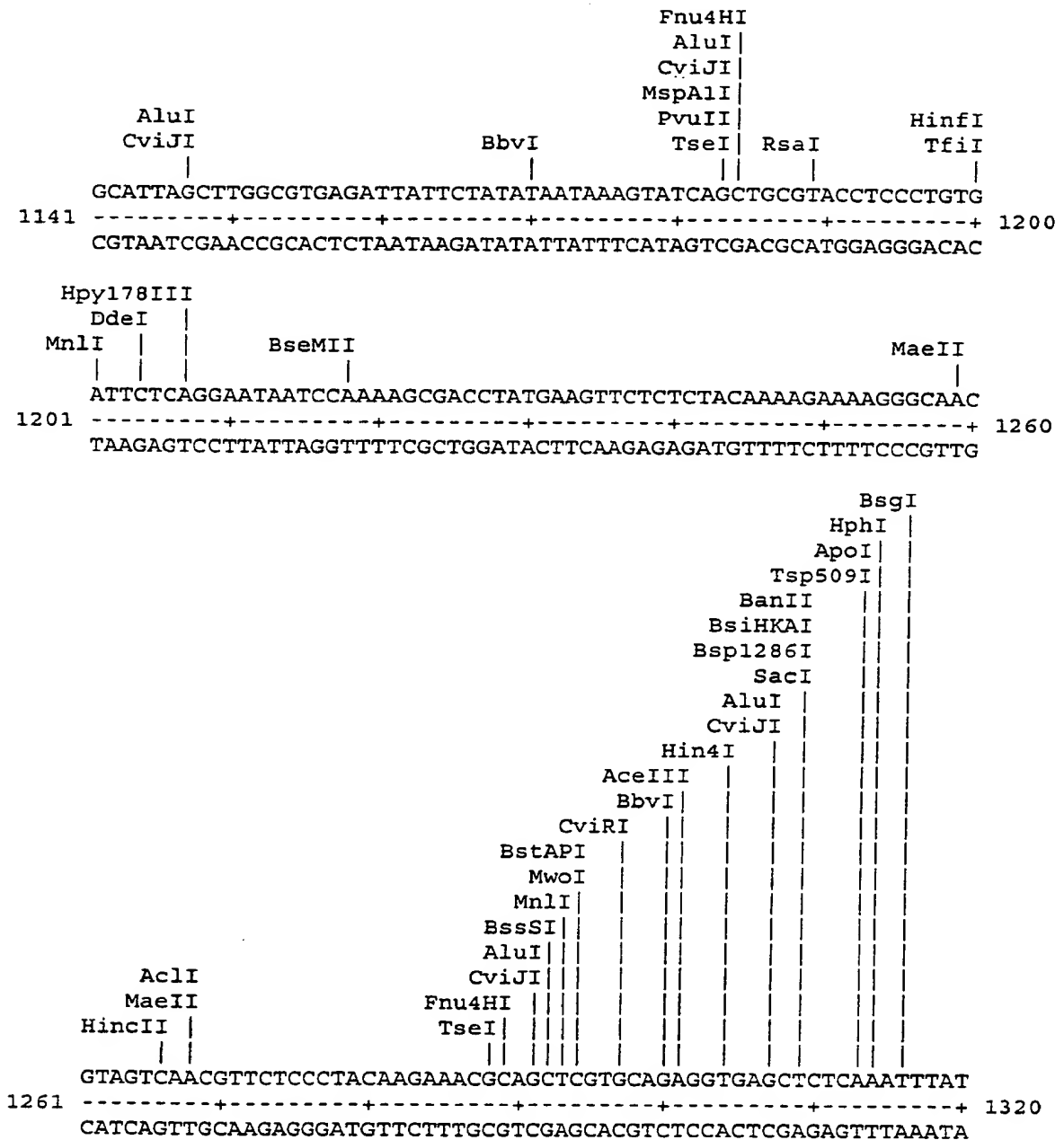
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Figure 5 (continued)



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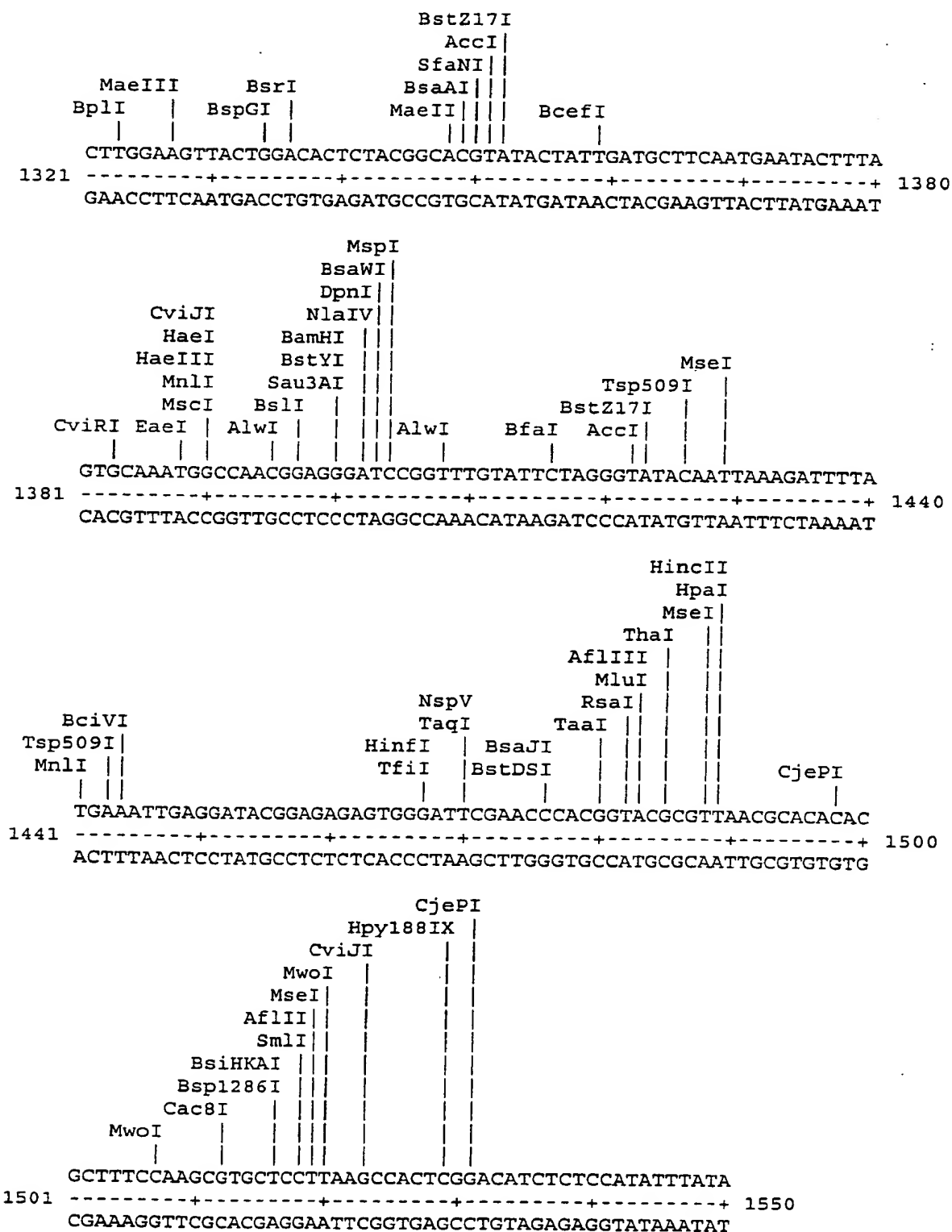
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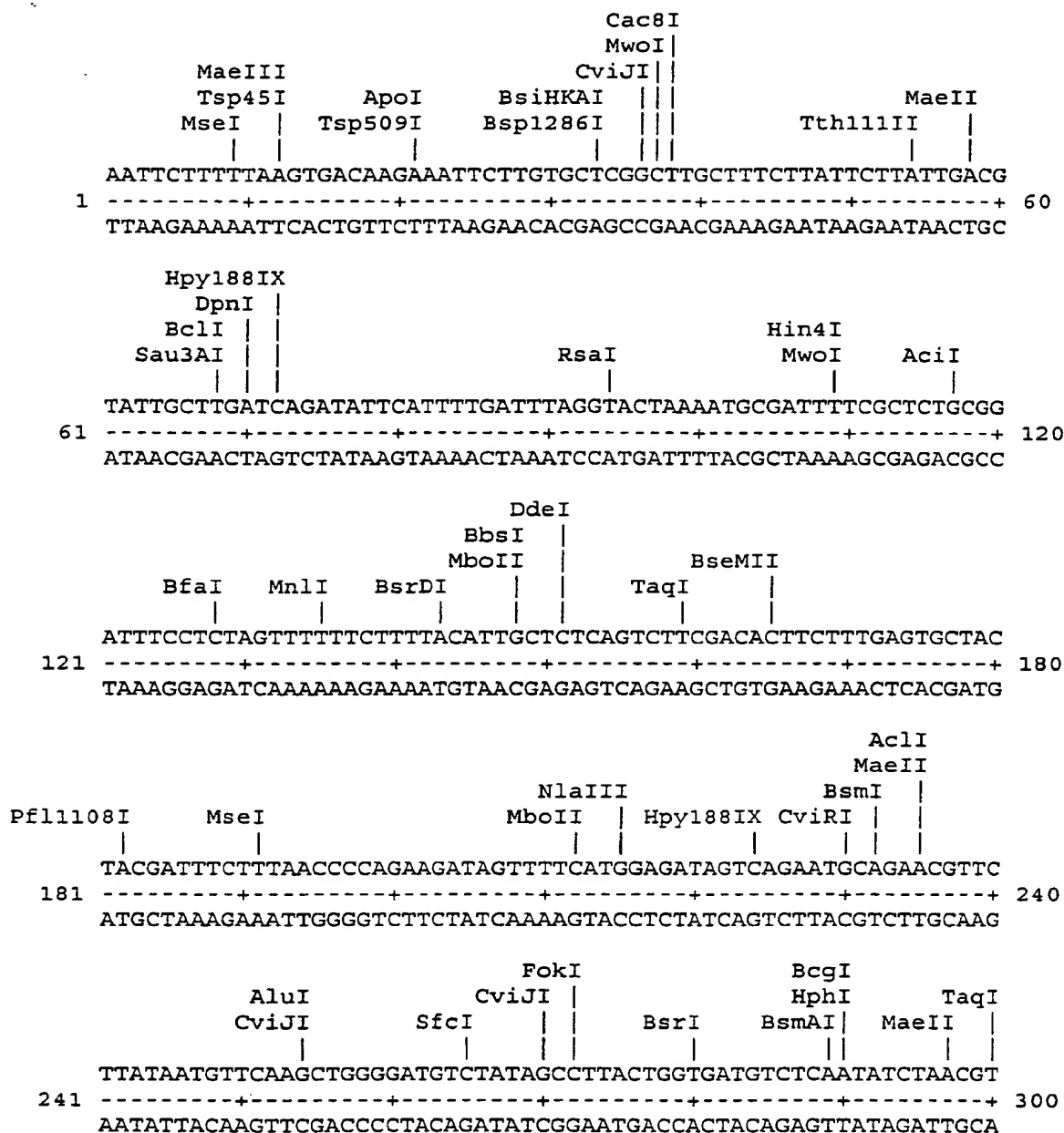
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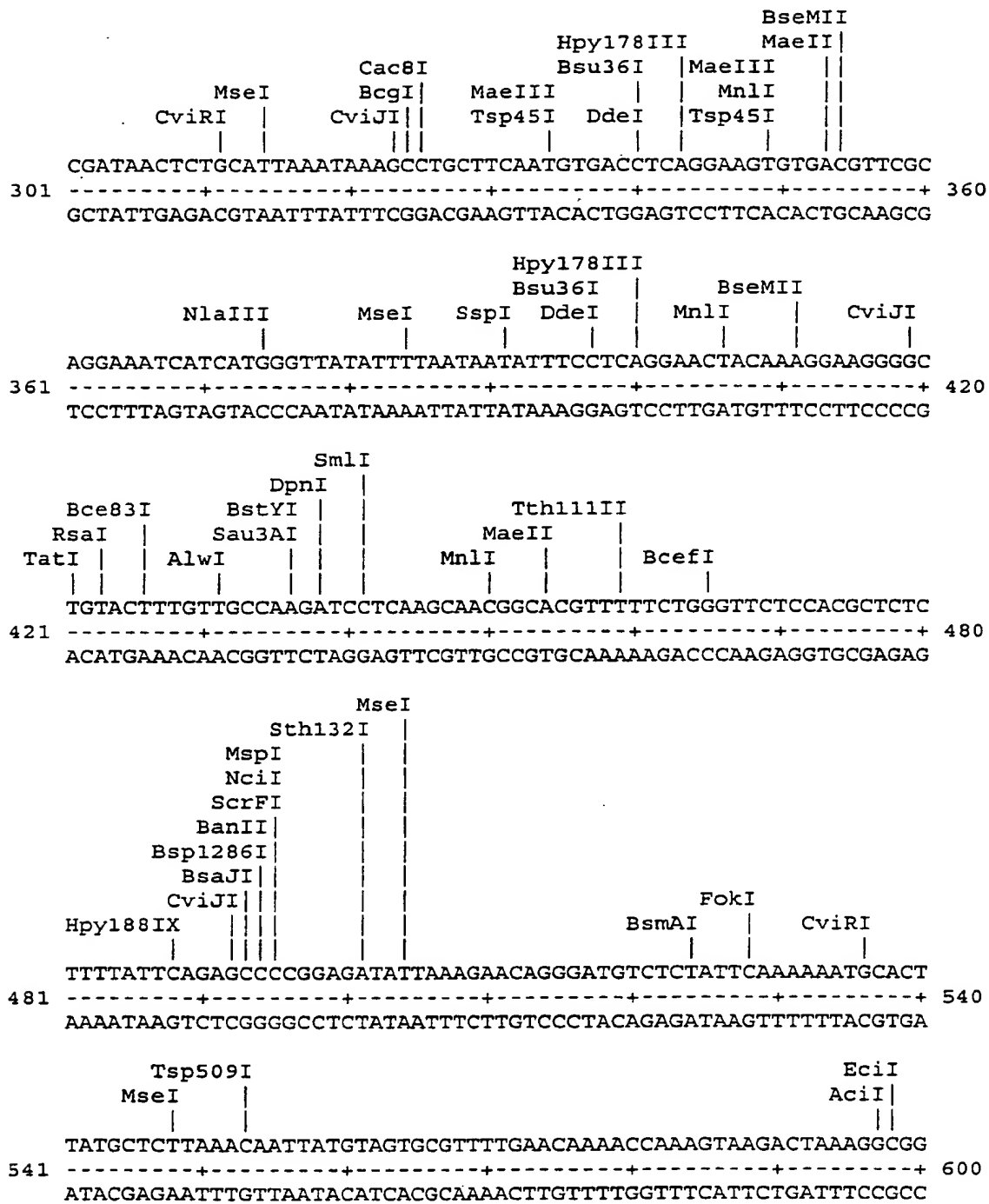
Figure 6

Restriction enzyme analysis of CPN100877 (RY 61 - SEQ ID NO. 6)



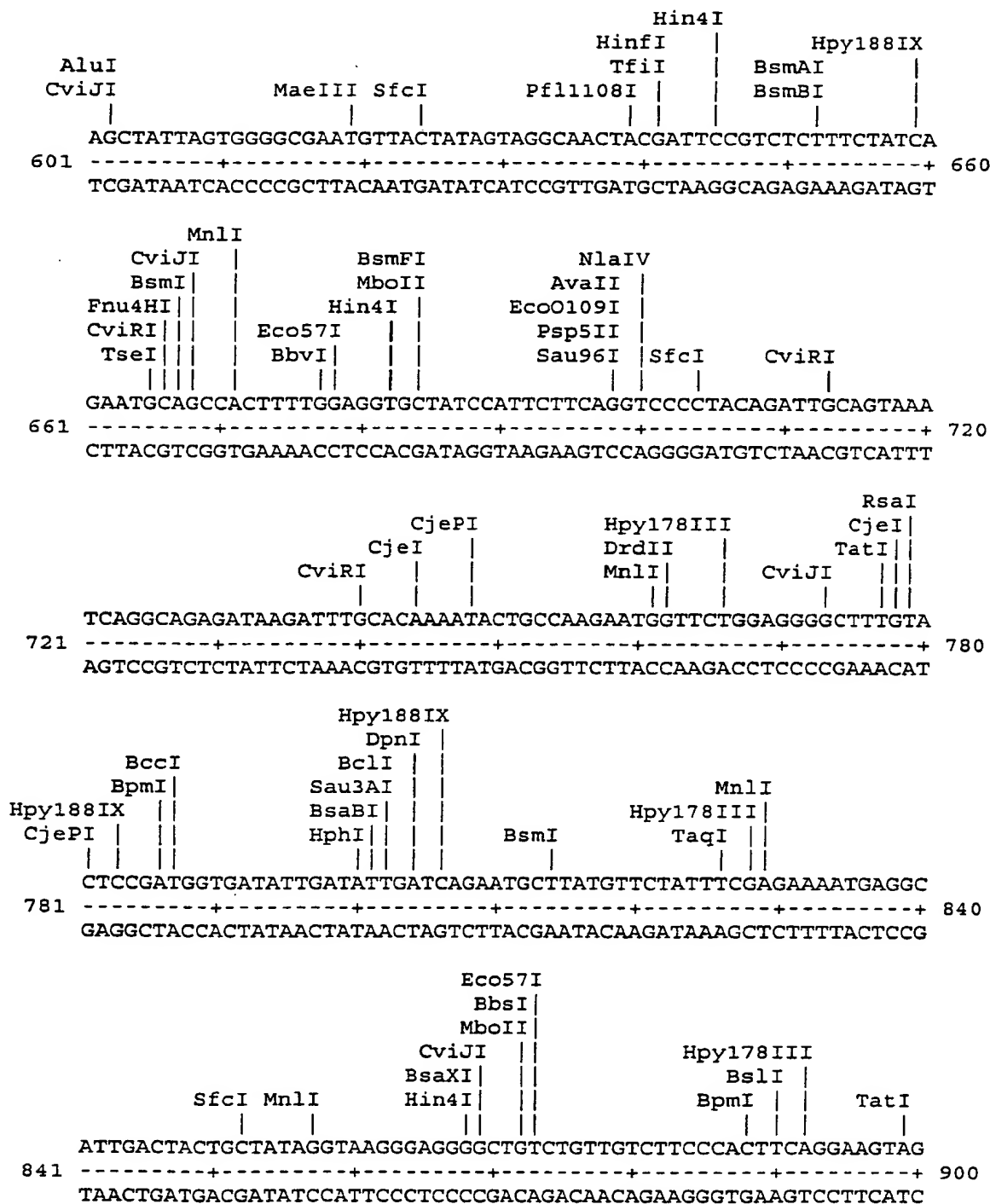
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Figure 6 (continued)



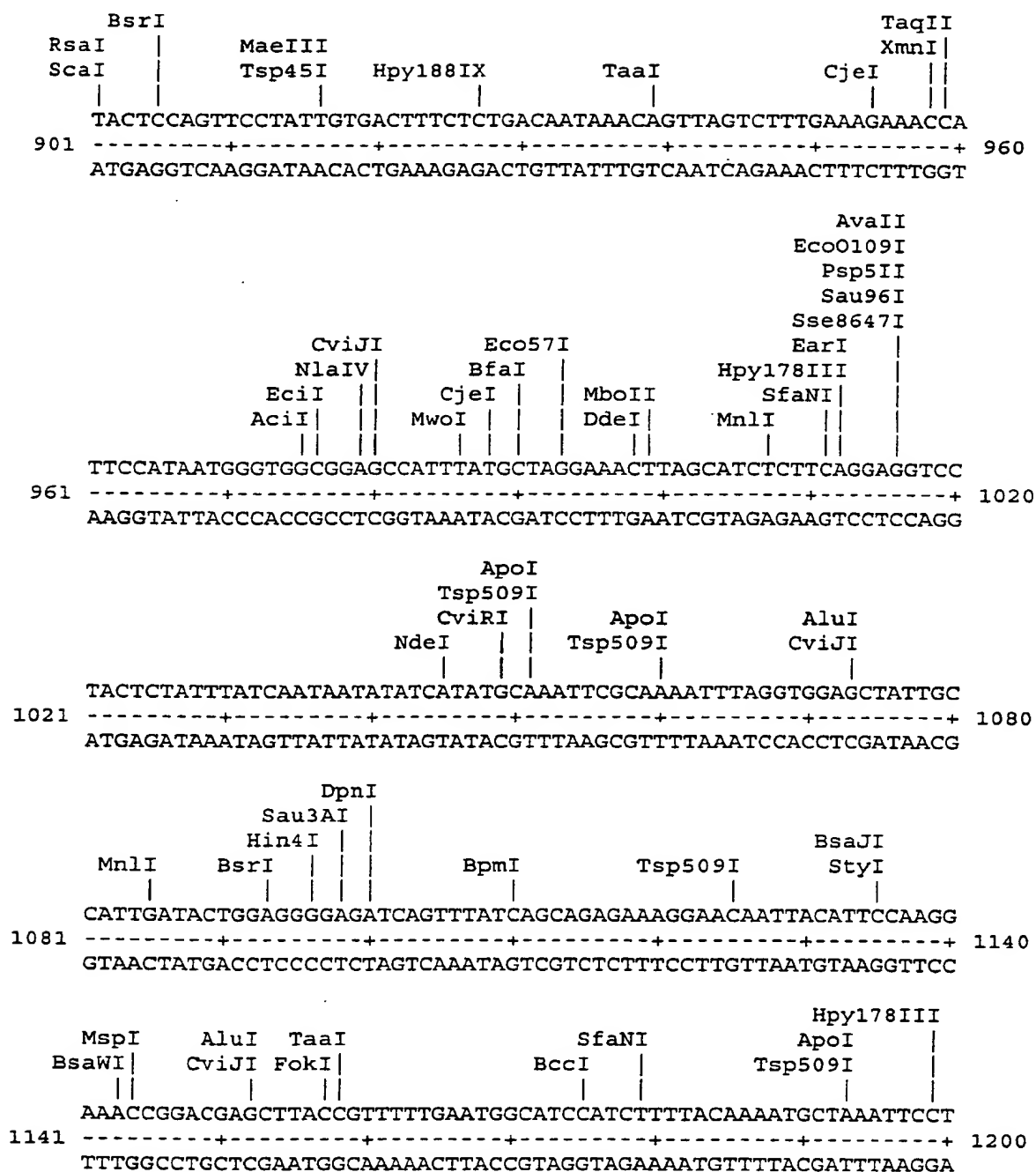
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Figure 6 (continued)



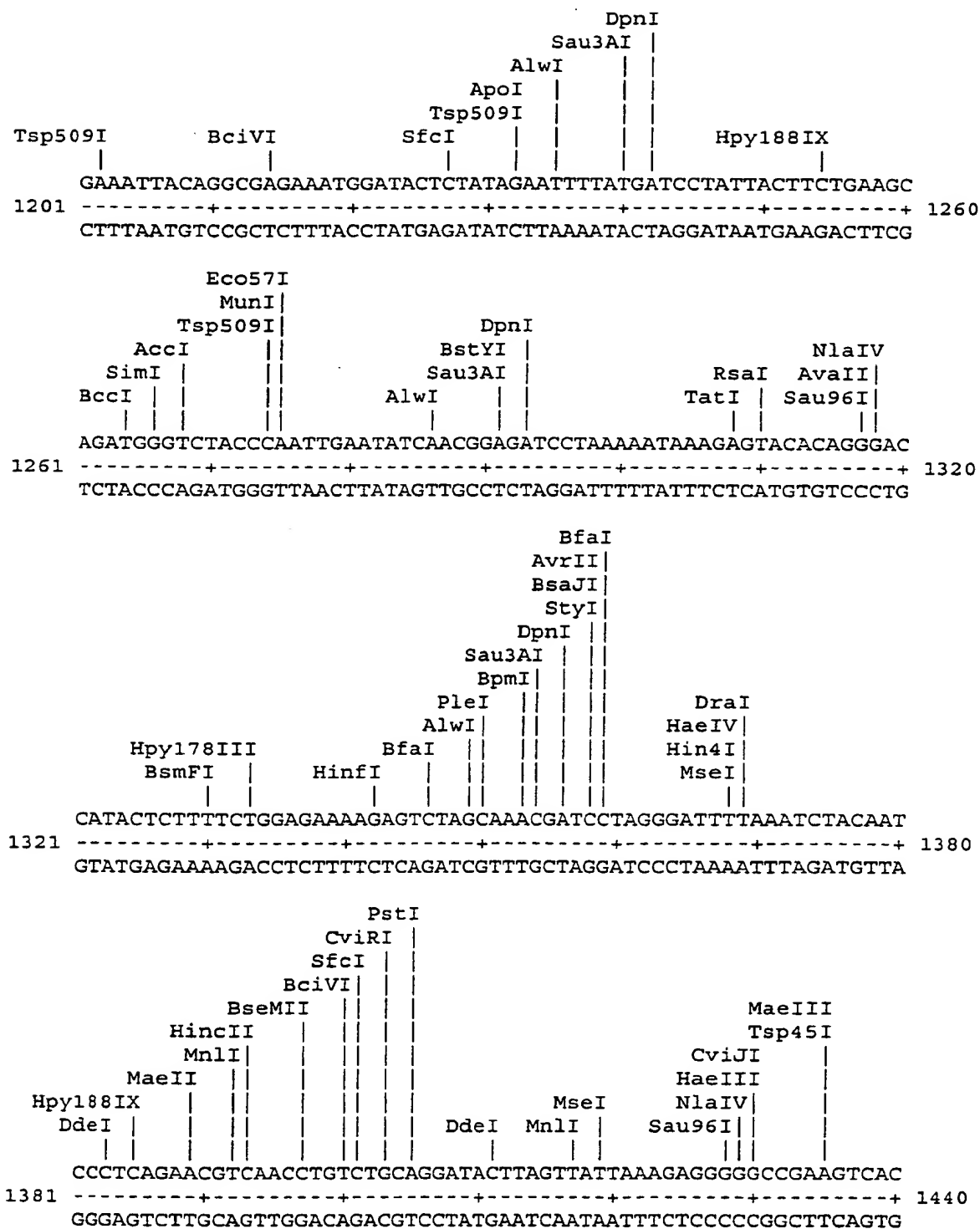
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Figure 6 (continued)



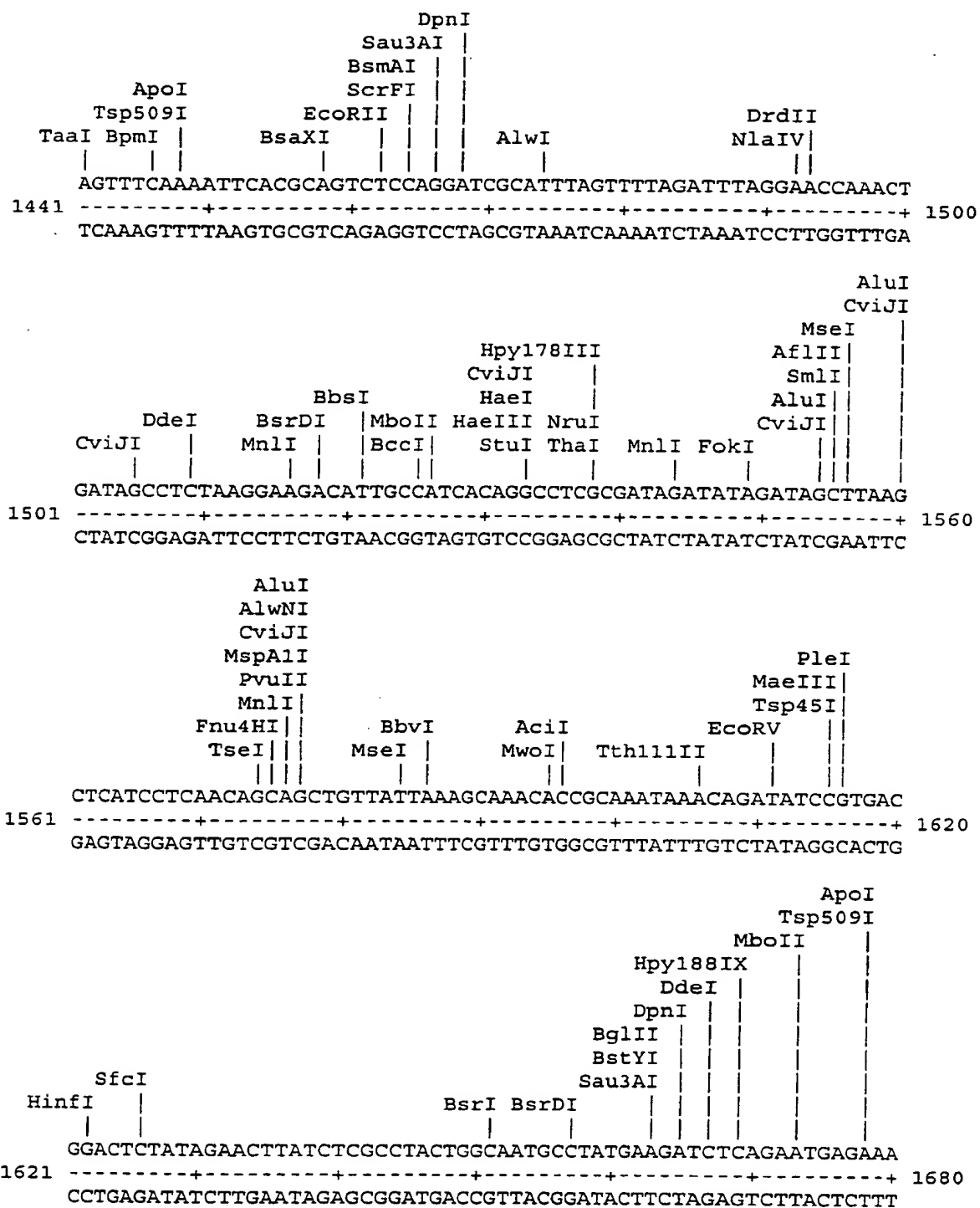
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Figure 6 (continued)



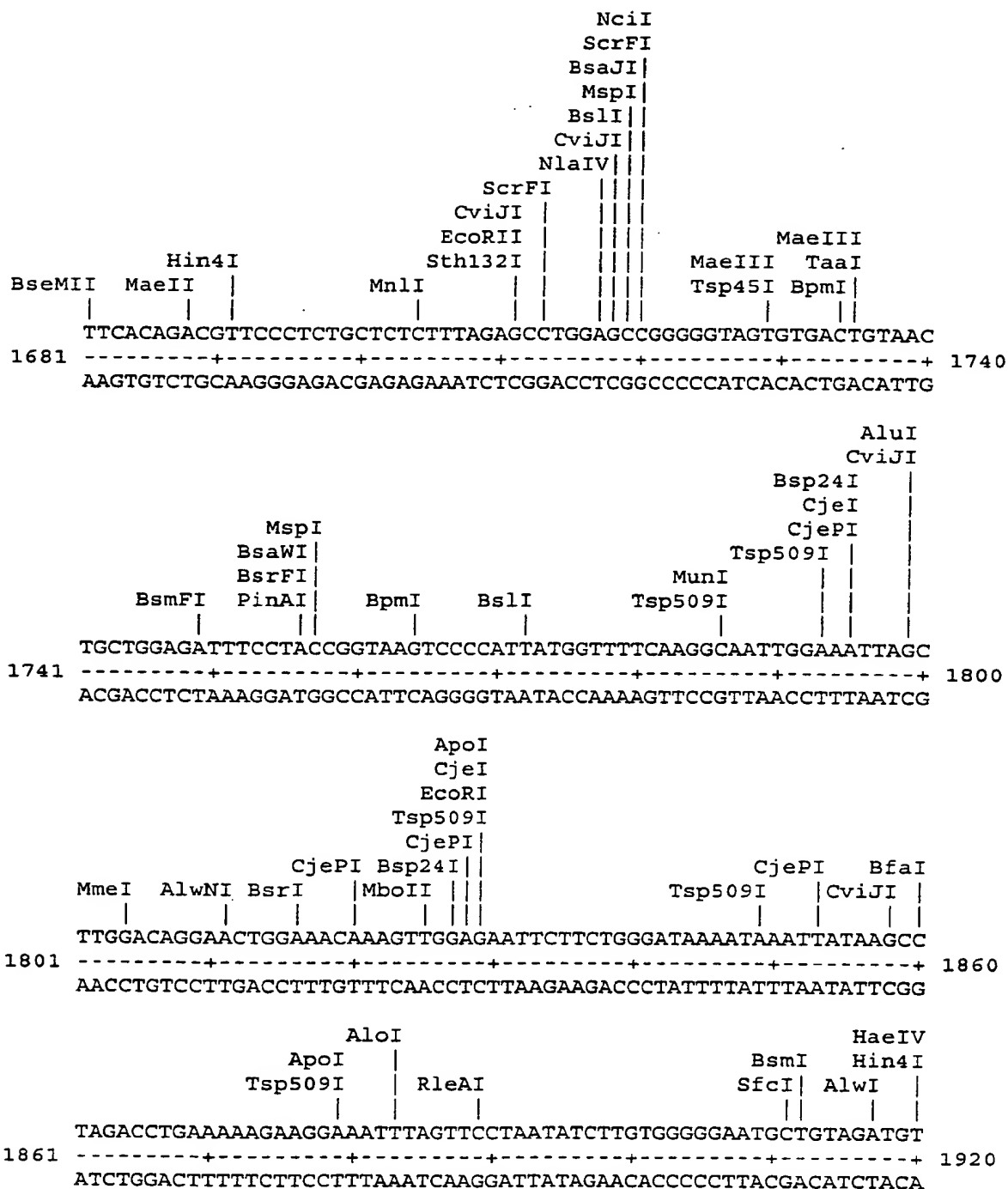
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Figure 6 (continued)



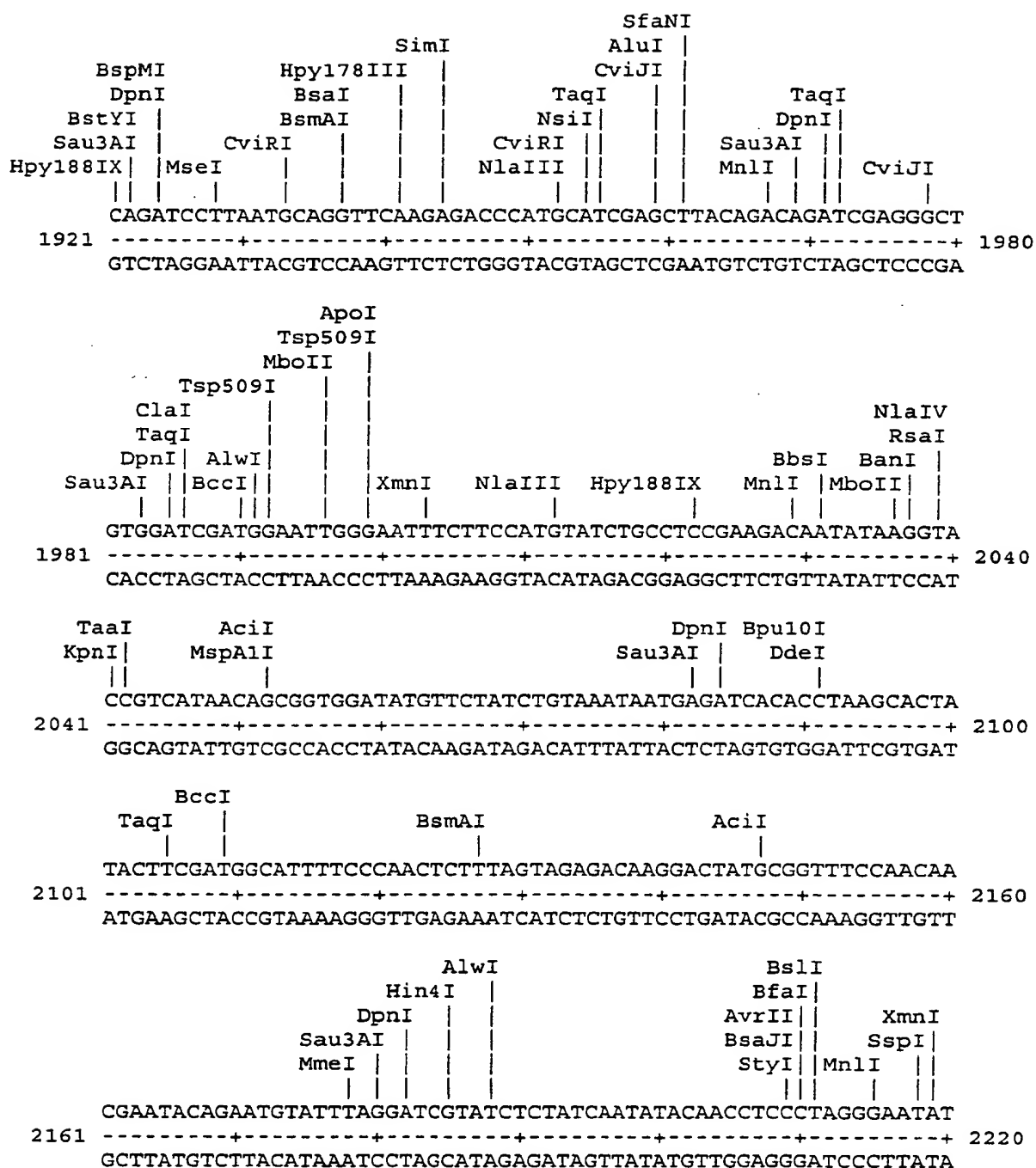
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Figure 6 (continued)



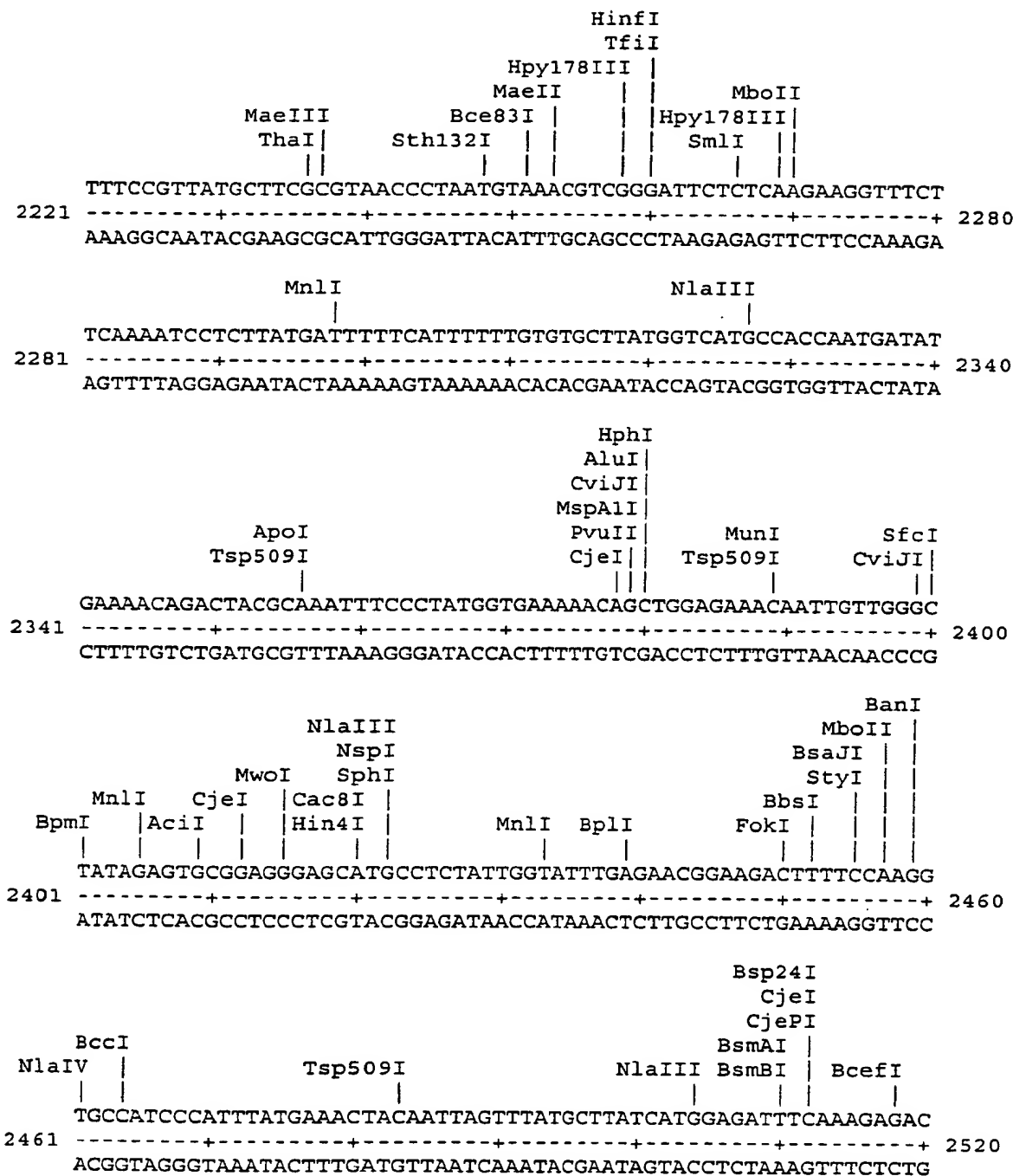
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Figure 6 (continued)



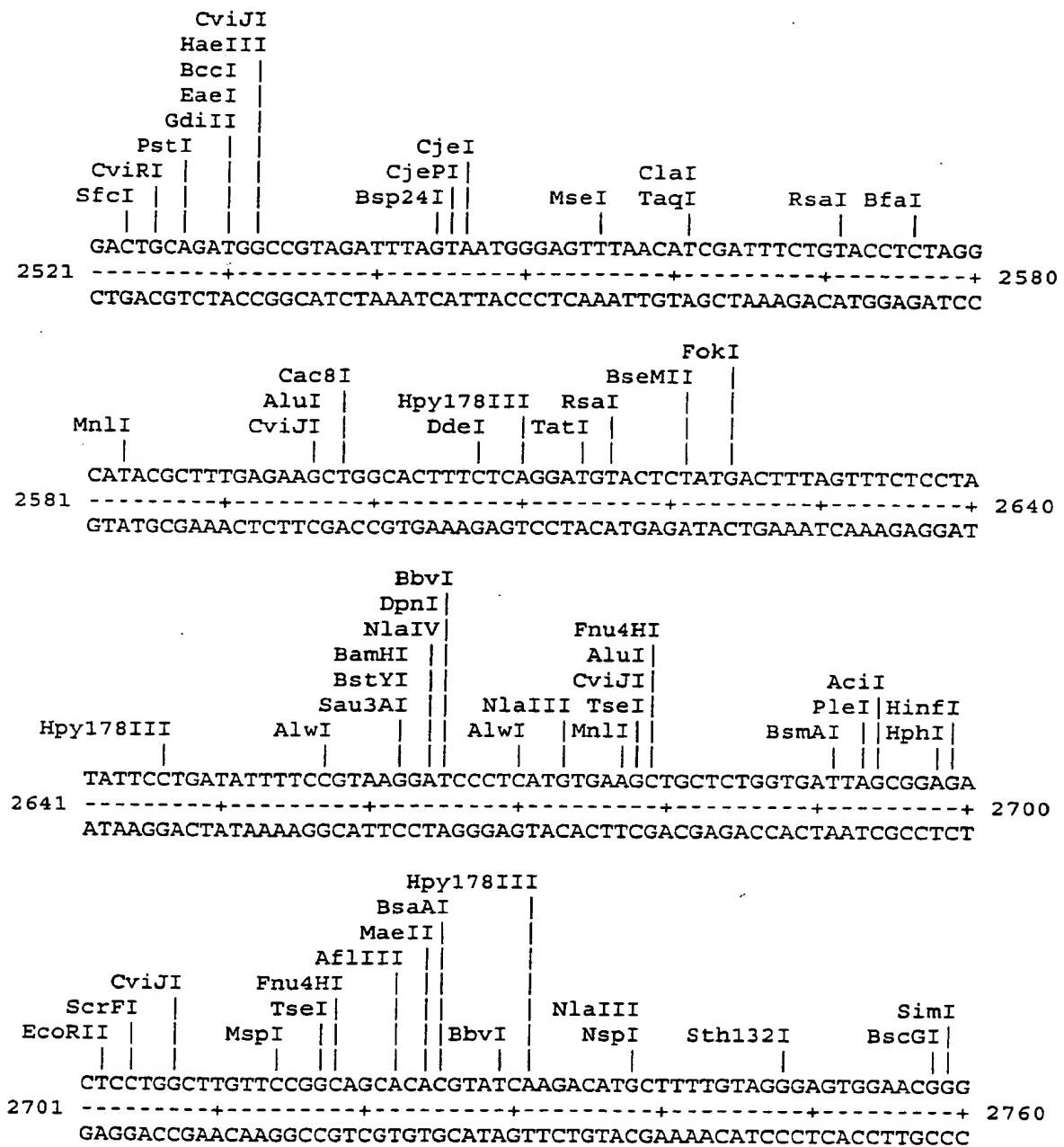
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Figure 6 (continued)



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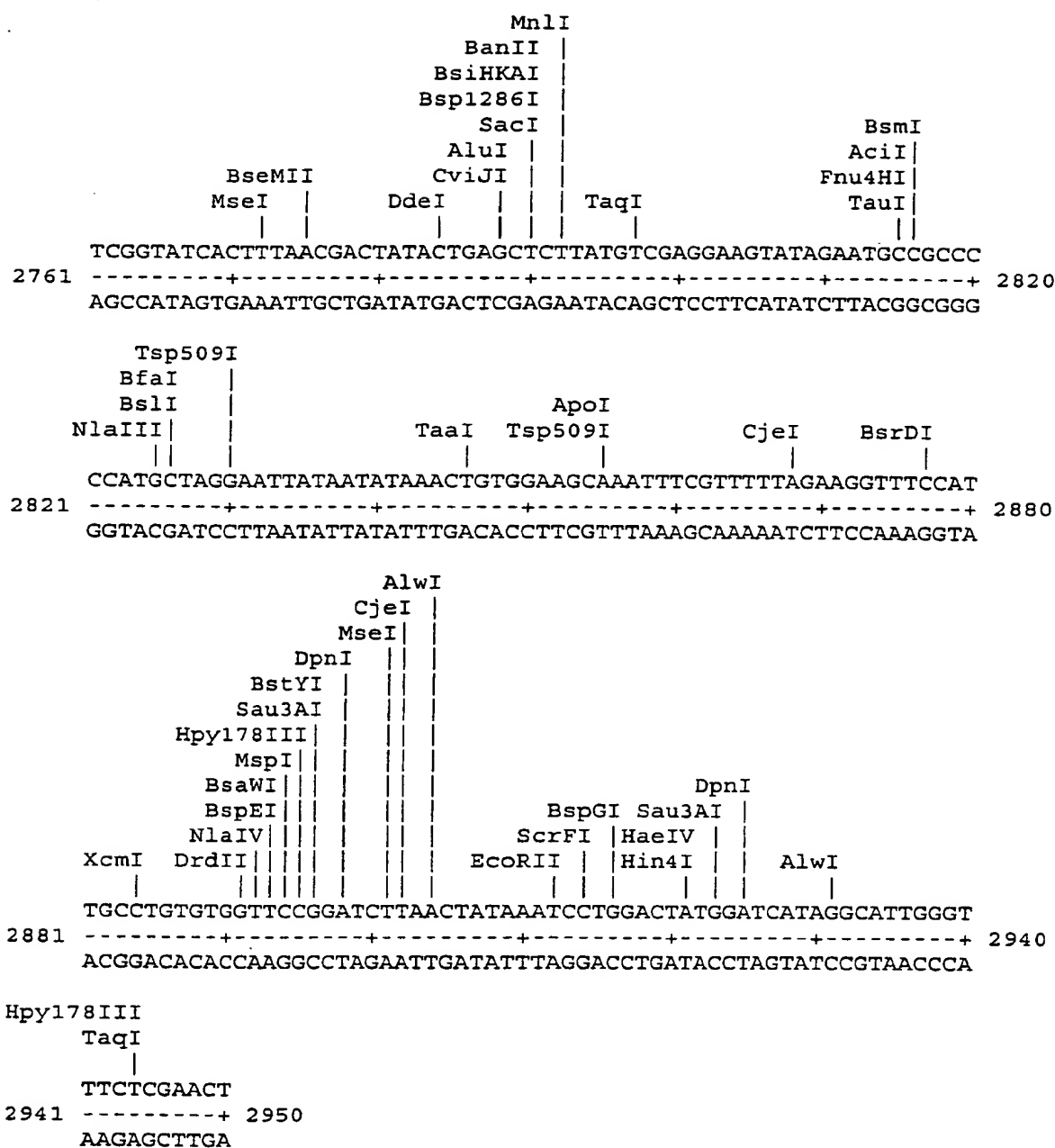
Figure 6 (continued)



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Figure 6 (continued)

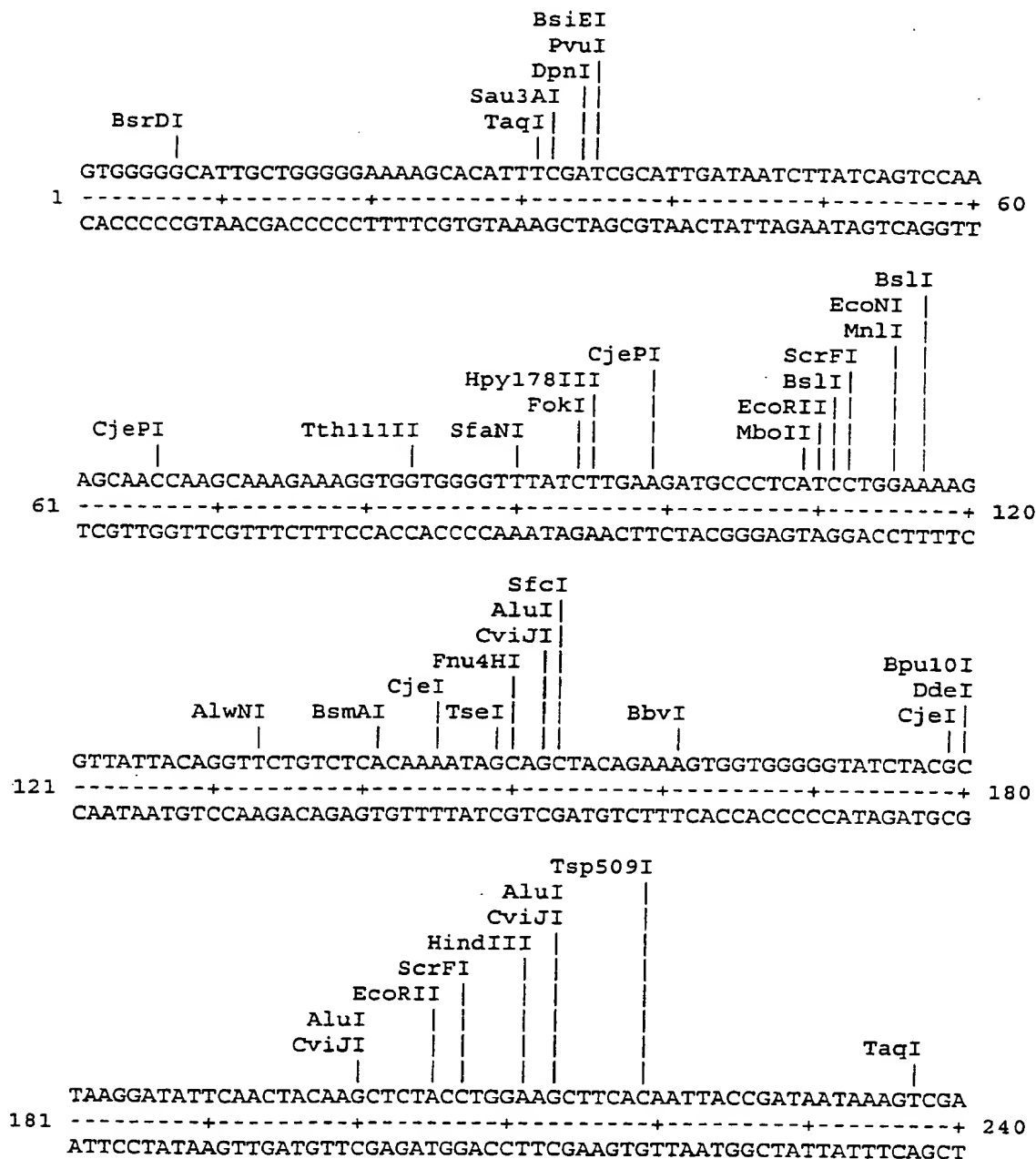


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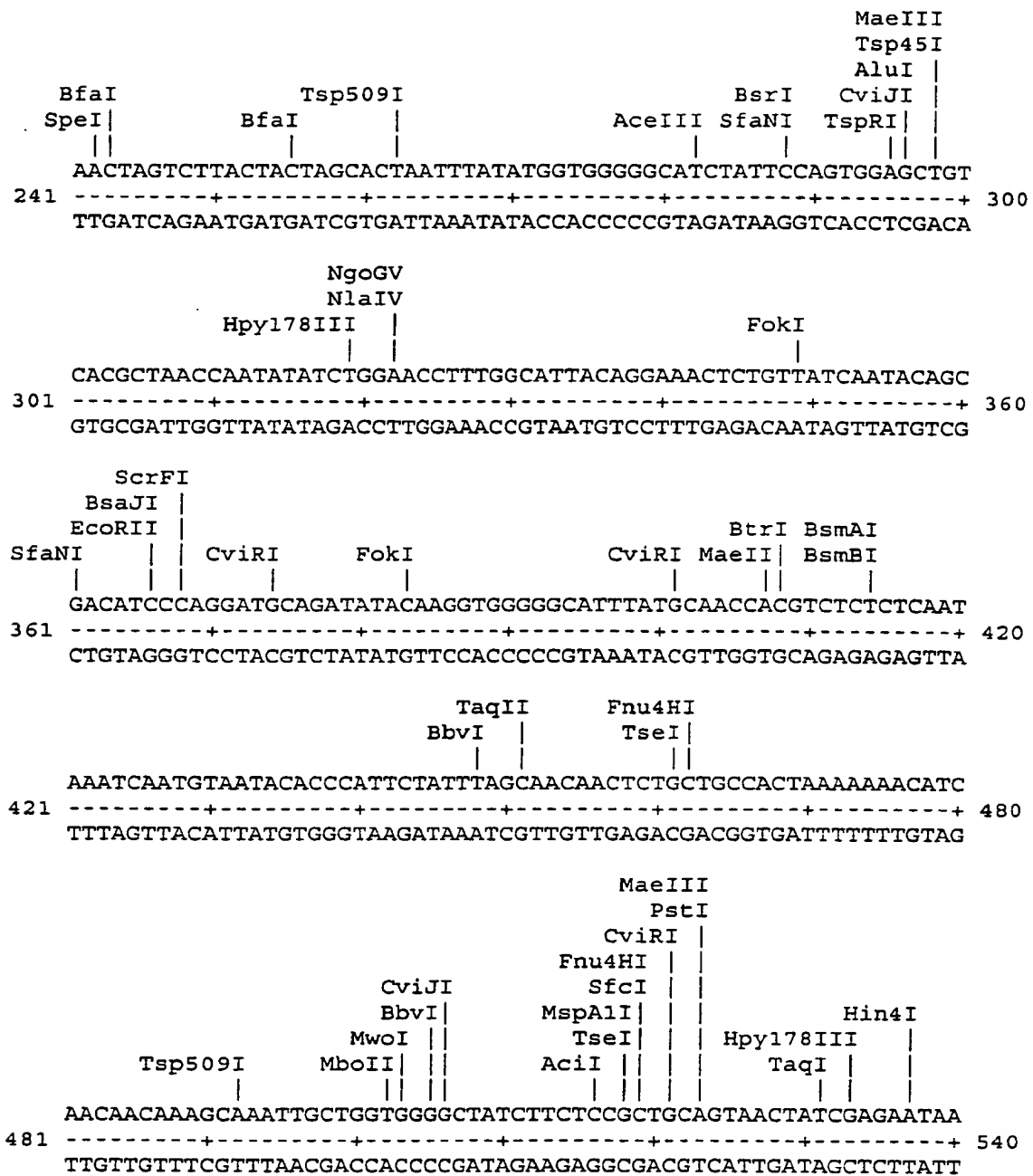
Figure 7

Restriction enzyme analysis of CPN100325 (RY 62 - SEQ ID NO. 7)



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Figure 7 (continued)



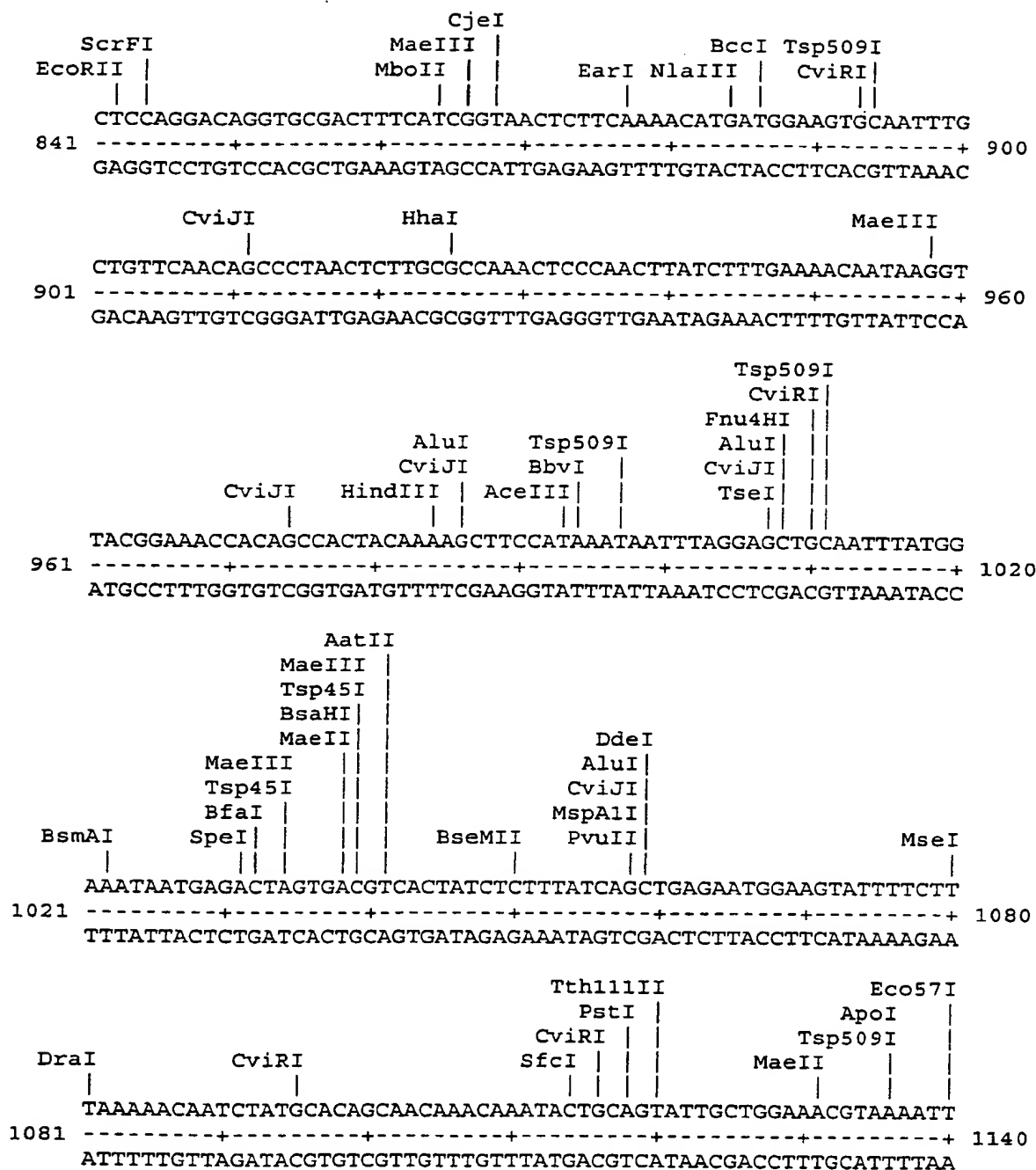
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Figure 7 (continued)

SfiI
 AlwNI
 BstAPI
 Fnu4HI
 TseI
 MwoI
 SfcI
 MwoI
 Tsp509I
 MseI
 MmeI
 BseMII
 BplI
 CviJI
 DdeI
 AcII
 Hpy188IX
 CTCTCAGCCCATTATTTTCTTAAATAATTCCGCAAAGTCGGAAGCAACTACAGCAGCAAC
 541 -----+-----+-----+-----+-----+ 600
 GAGAGTCGGGTAATAAAAGAATTTATTAAGGCGTTTCAGCCTTCGTTGATGTCGTCGTTG
 BseRI
 AluI
 CviJI
 Fnu4HI
 BsrDI
 CviJI
 CviRI
 MwoI
 TseI
 BbvI
 MaeIII
 MseI
 BbvI
 PstI
 CviRI
 AluI
 CviJI
 MnlI
 NgoGV
 NlaIV
 TGCAGGAAATAAAGATAGCTGTGGAGGAGCCATTGCAGCTAACTCTGTTACTTTAACAAA
 601 -----+-----+-----+-----+-----+ 660
 ACGTCCTTTATTTCTATCGACACCTCCTCGGTAACGTCGATTGAGACAATGAAATTGTTT
 Tsp509I
 AlwNI
 BpmI
 BseRI
 CviJI
 BsrI
 MnlI
 CviRI
 MseI
 DraI
 TAACCCCTGAAATAACCTTTAAAGGAAATTATGCAGAAACTGGAGGAGCGATTGGCTGTAT
 661 -----+-----+-----+-----+-----+ 720
 ATTGGGACTTTATTGGAAATTTCTTTAATACGTCTTTGACCTCCTCGCTAACCGACATA
 DpnI
 Sth132I
 CviRI
 TaaI
 Sau3AI
 HphI
 CviJI
 BscGI
 MnlI
 BsmAI
 TGATCTTACTAATGGCTCACCTCCCCGTAAAGTCTCTATTGCAGACAACGGTTCTGTCTCT
 721 -----+-----+-----+-----+-----+ 780
 ACTAGAATGATTACCGAGTGGAGGGGCATTTTCAGAGATAACGTCTGTTGCCAAGACAGGA
 EcoRV
 CjeI
 ClaI
 TaqI
 BpmI
 BsmAI
 HhaI
 HaeII
 AcII
 MnlI
 MseI
 Hpy178III
 TTTTCAAGACAACCTCTGCGTTAAATCGCGGAGGCGCTATCTATGGAGAGACTATCGATAT
 781 -----+-----+-----+-----+-----+ 840
 AAAAGTTCTGTTGAGACGCAATTTAGCGCCTCCGCGATAGATACCTCTCTGATAGCTATA

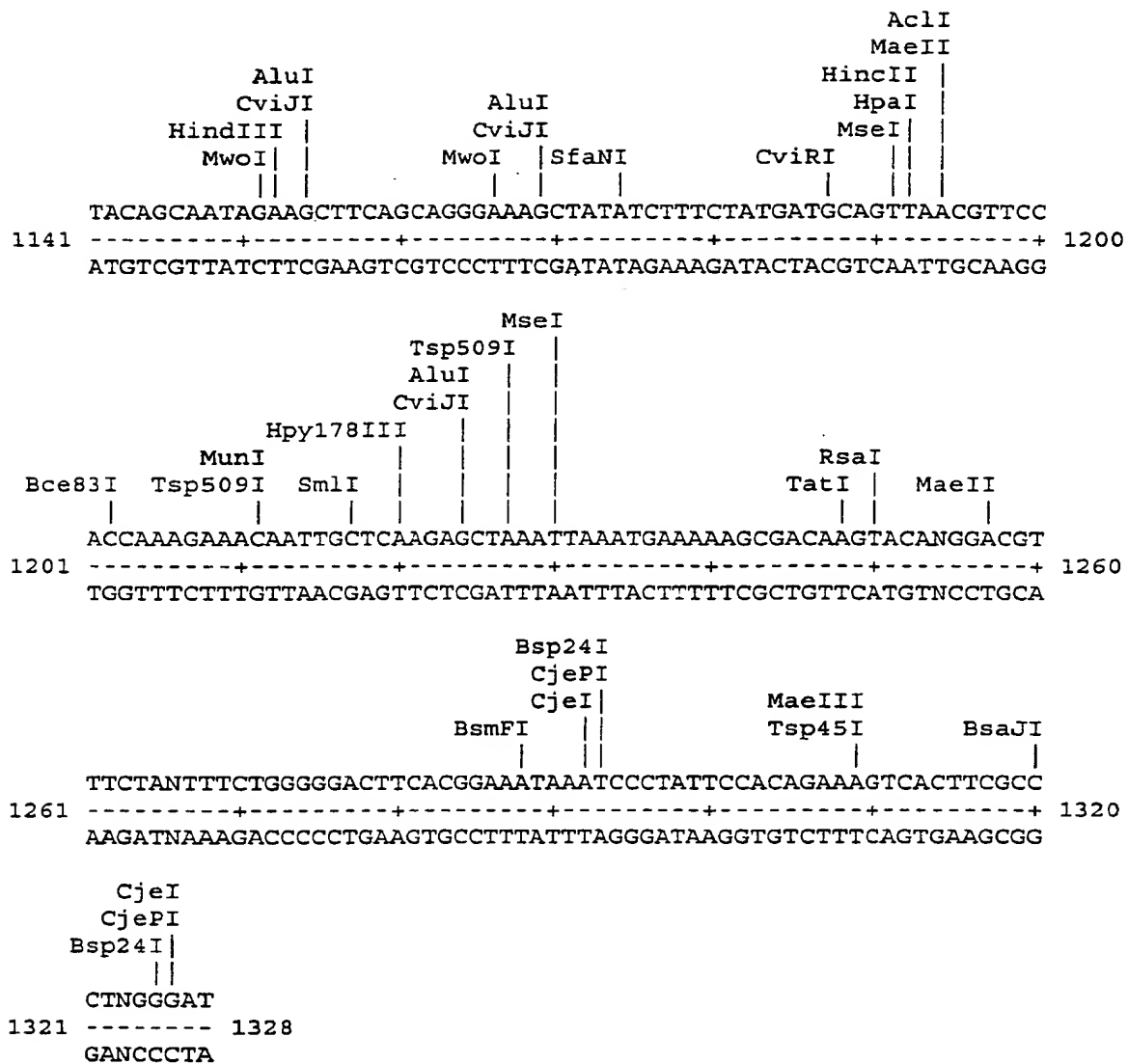
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Figure 7 (continued)



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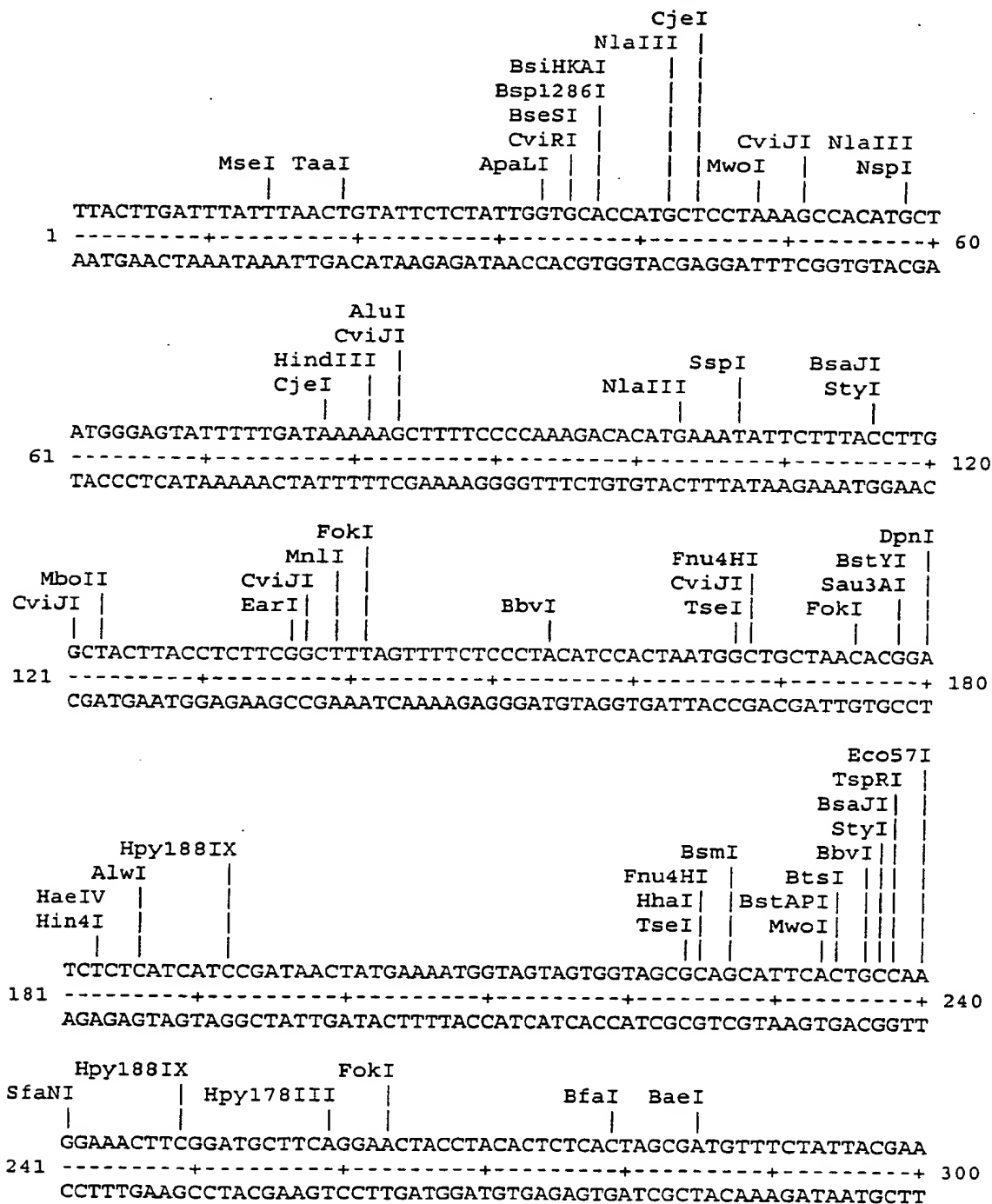
Figure 7 (continued)



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Figure 8

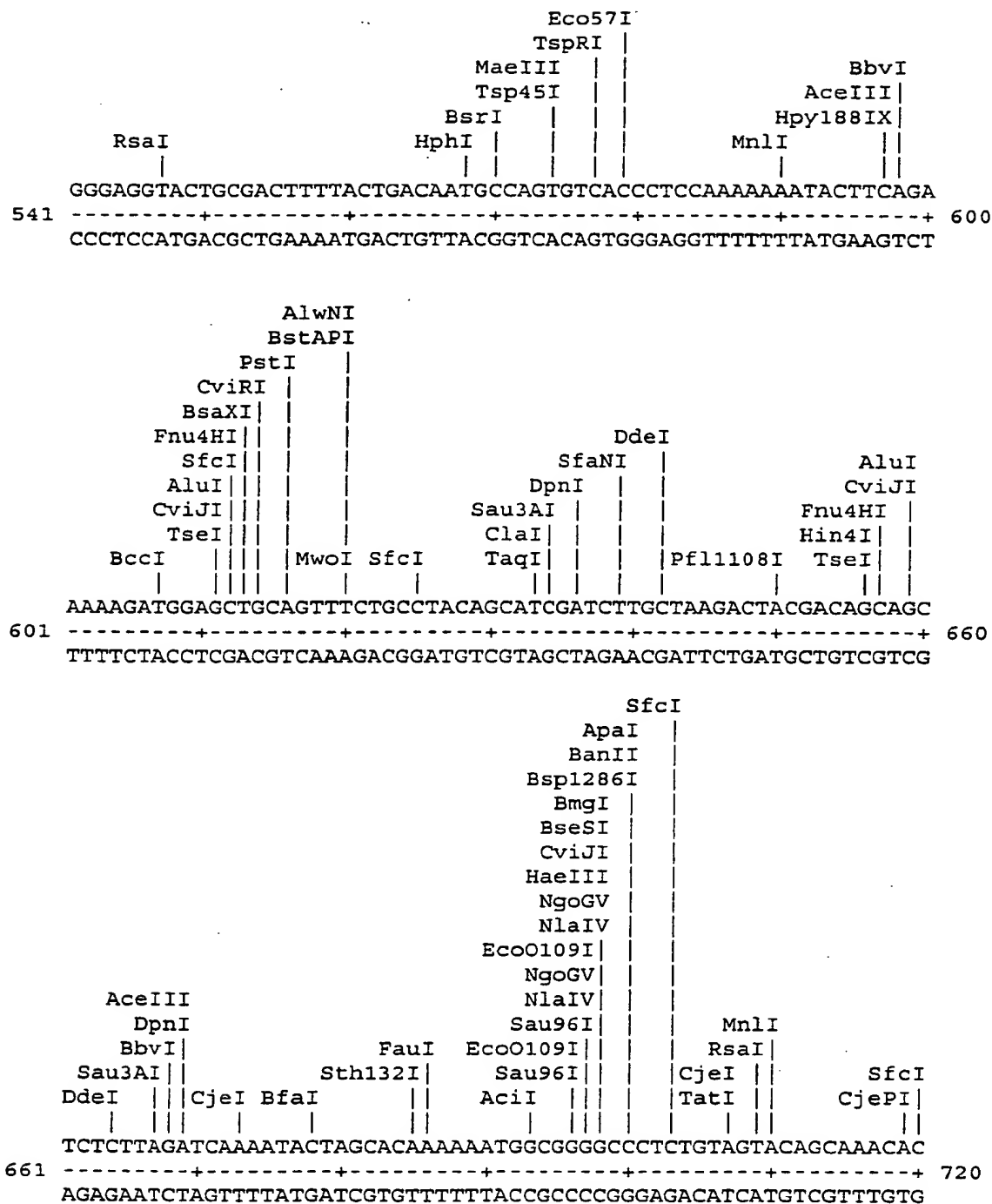
Restriction enzyme analysis of CPN100368 (RY 63 - SEQ ID NO. 8)



[illegible]

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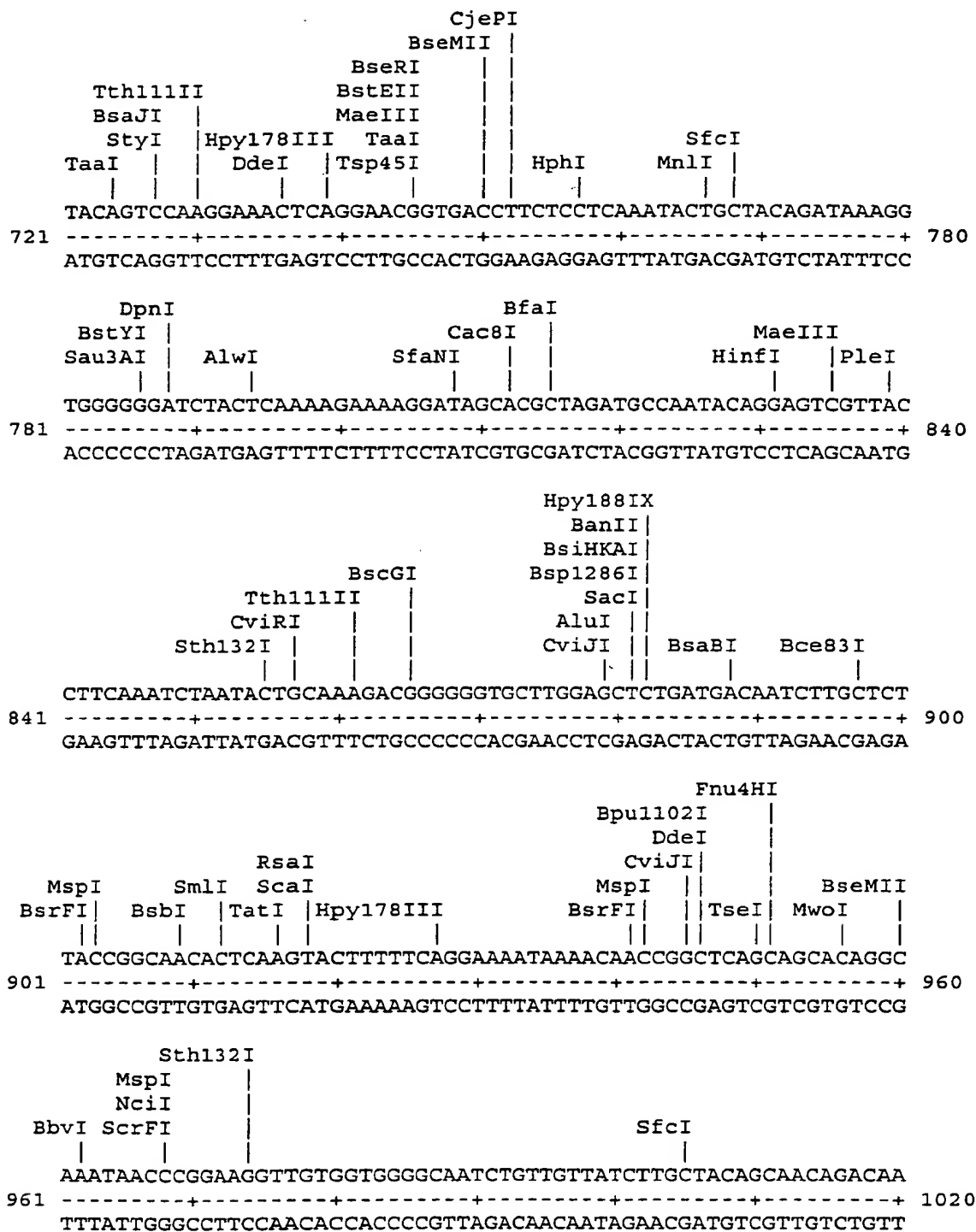
Figure 9 (continued)



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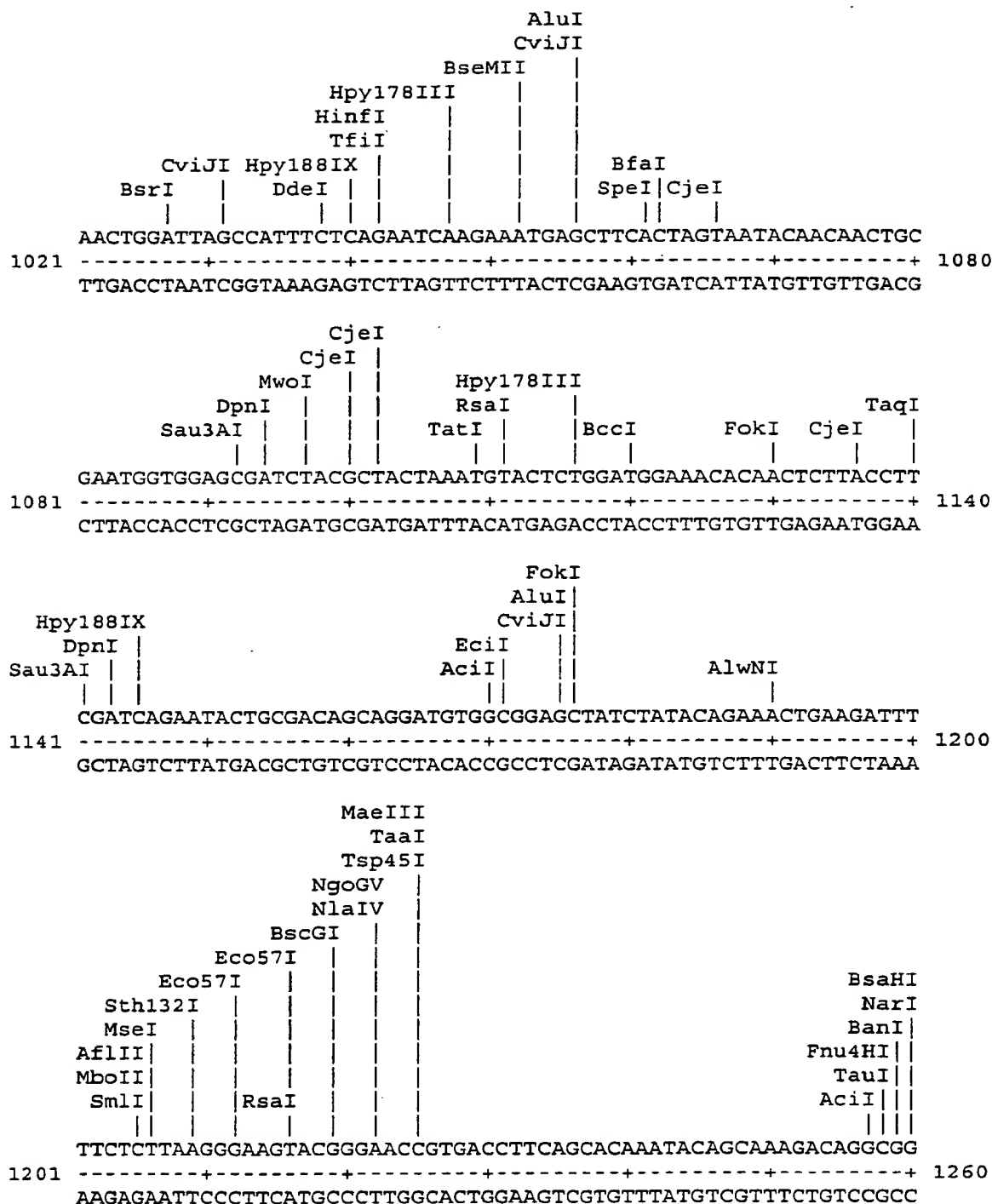
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Figure 9 (continued)



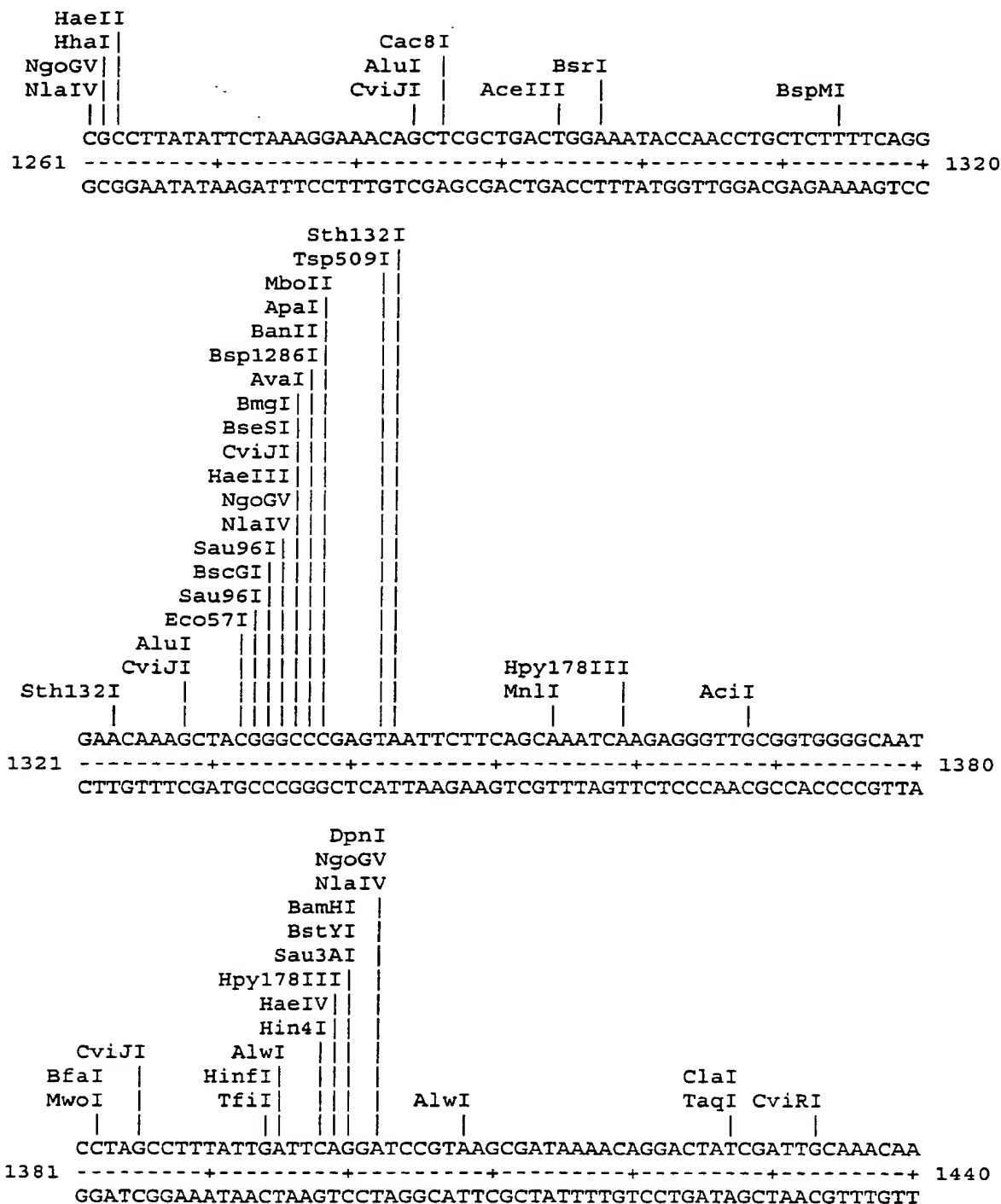
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Figure 9 (continued)



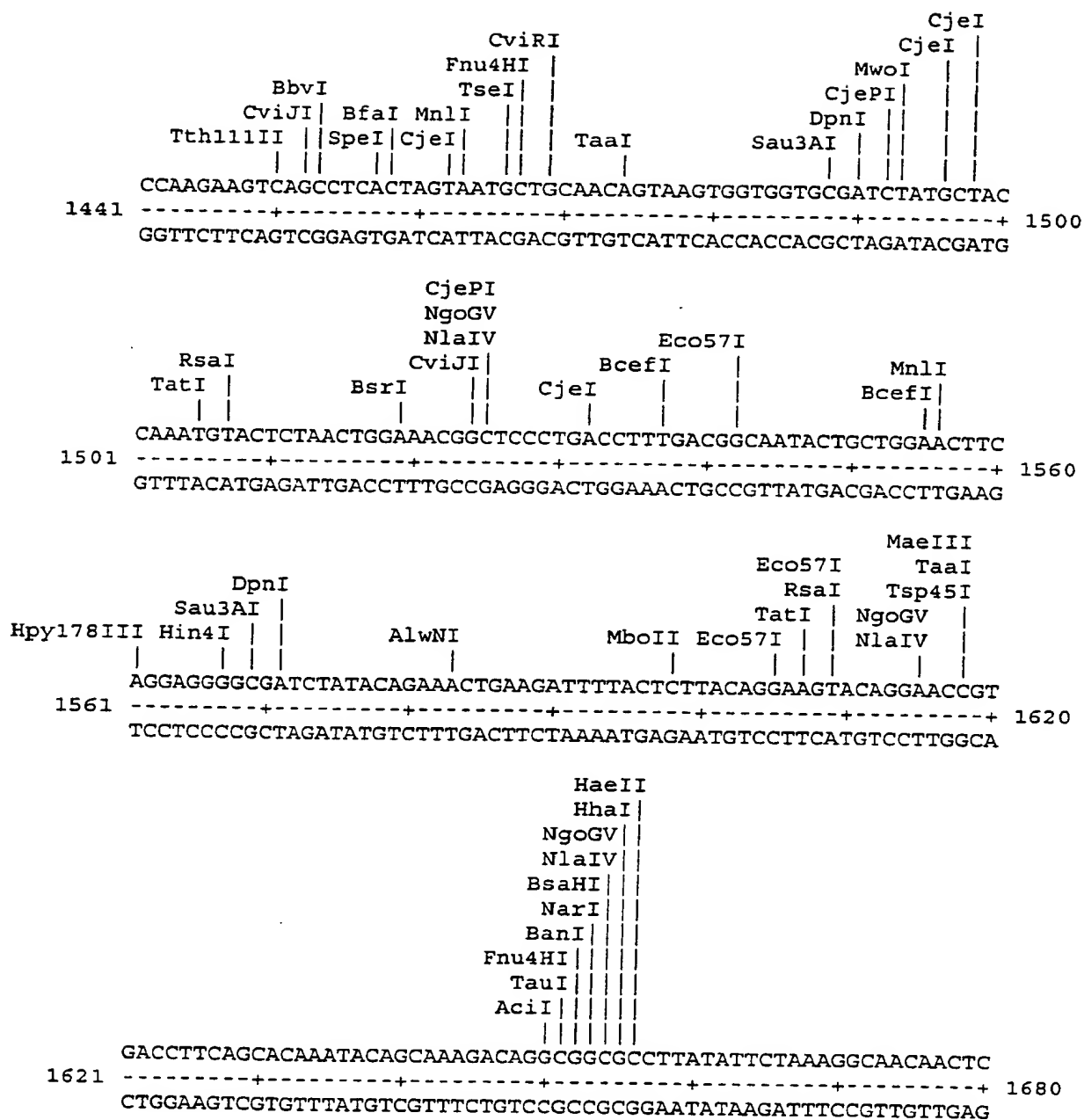
09868987 "100101"

Figure 9 (continued)



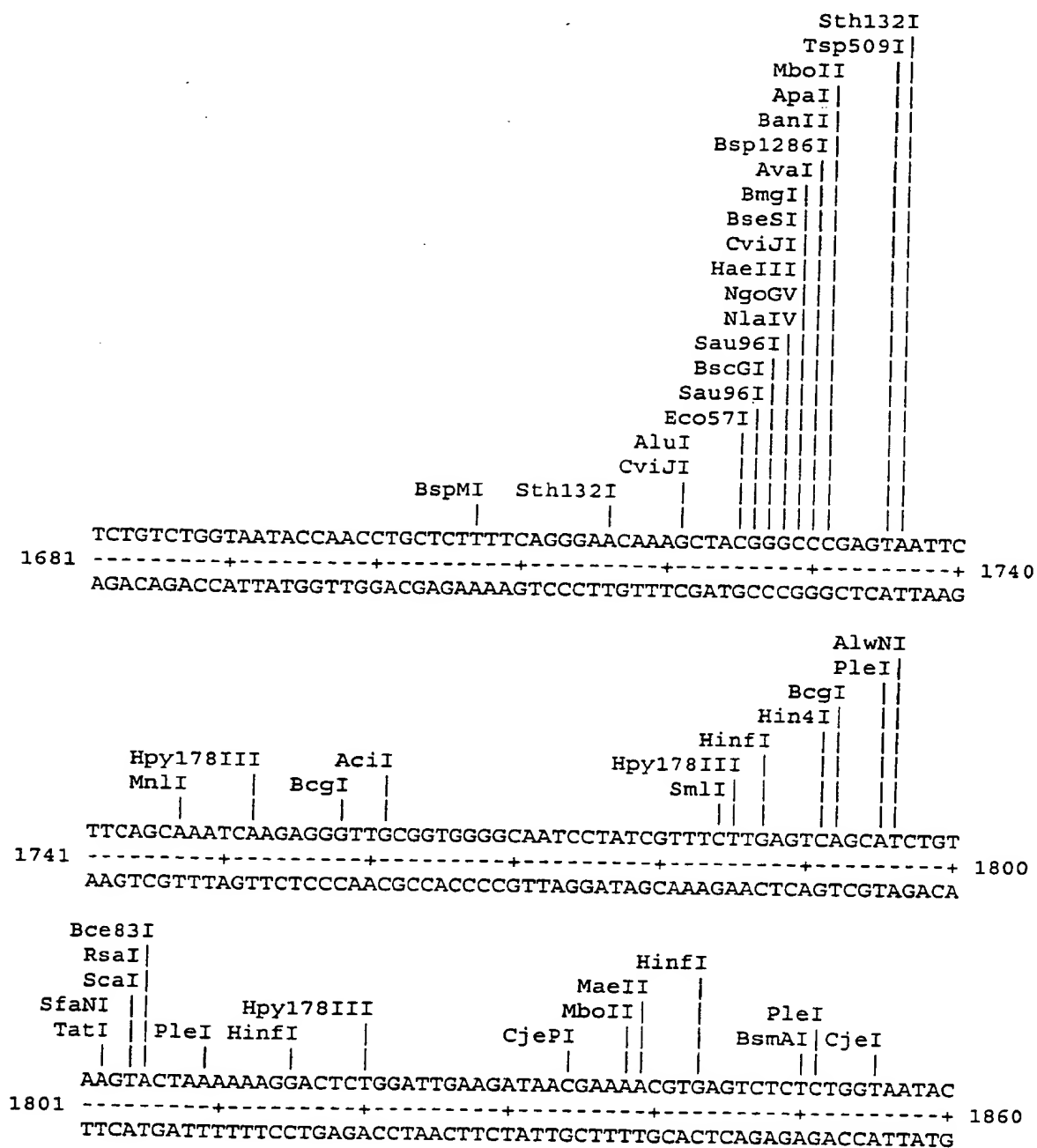
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Figure 9 (continued)



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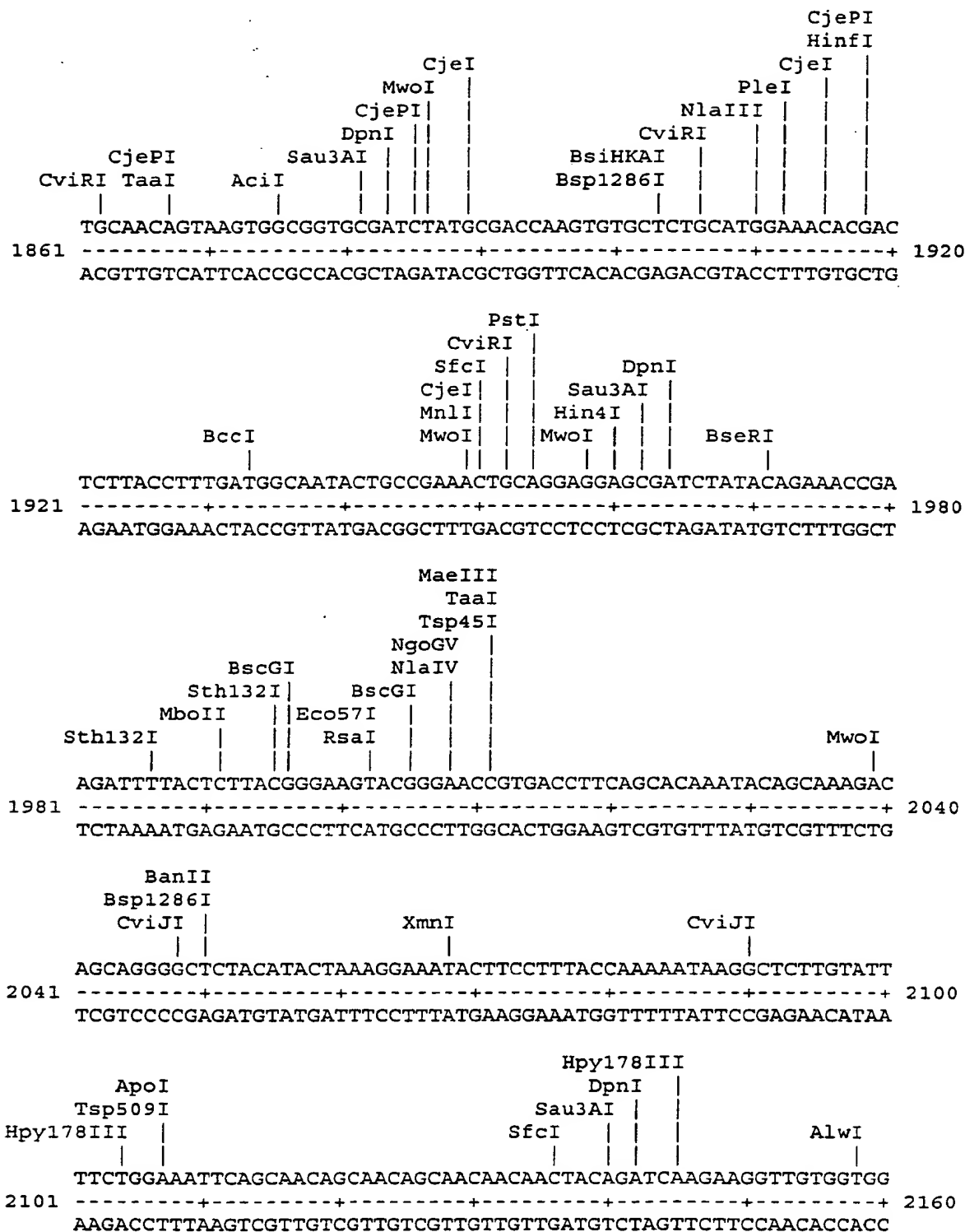
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09/868987 "100101"

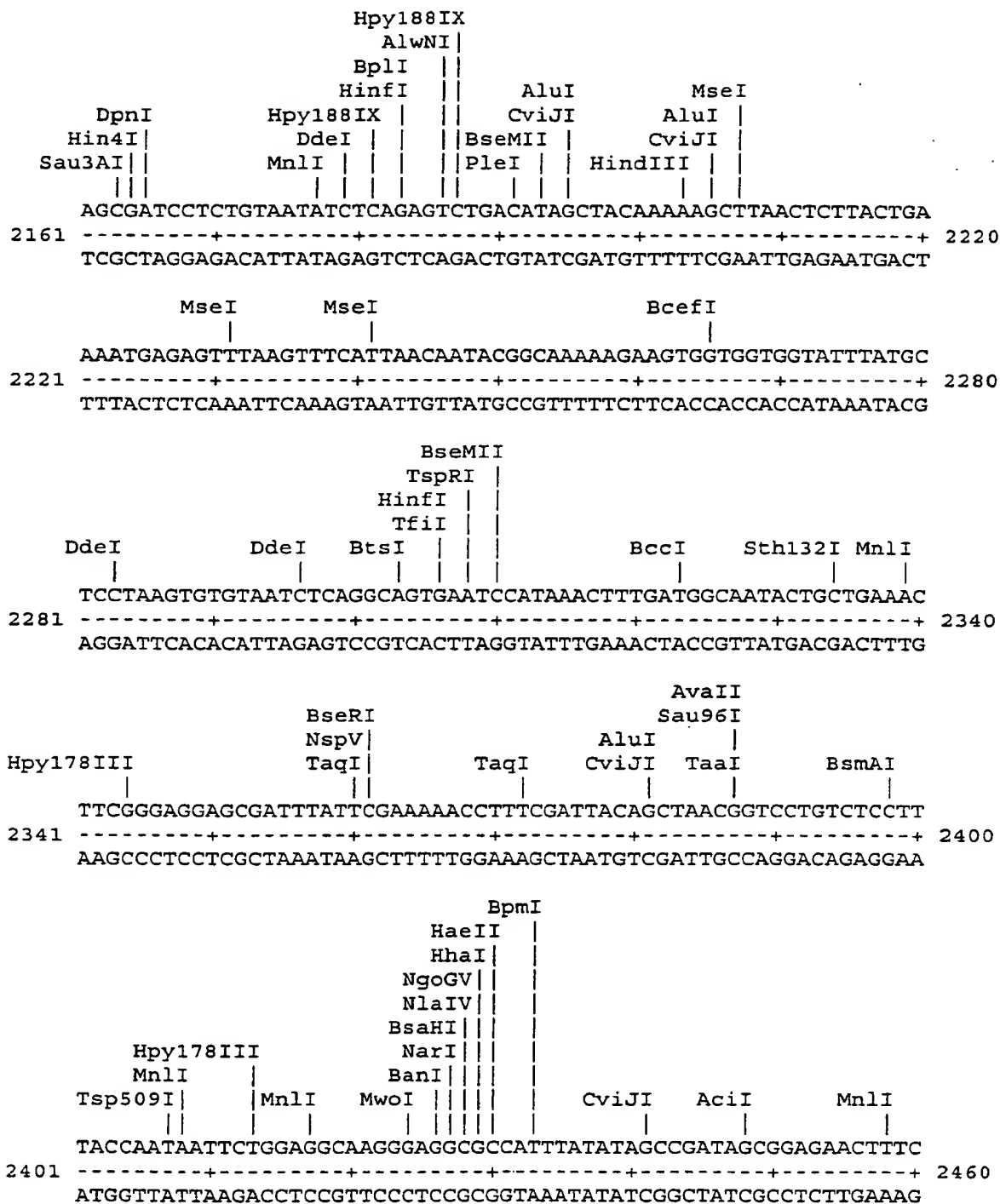
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Figure 9 (continued)



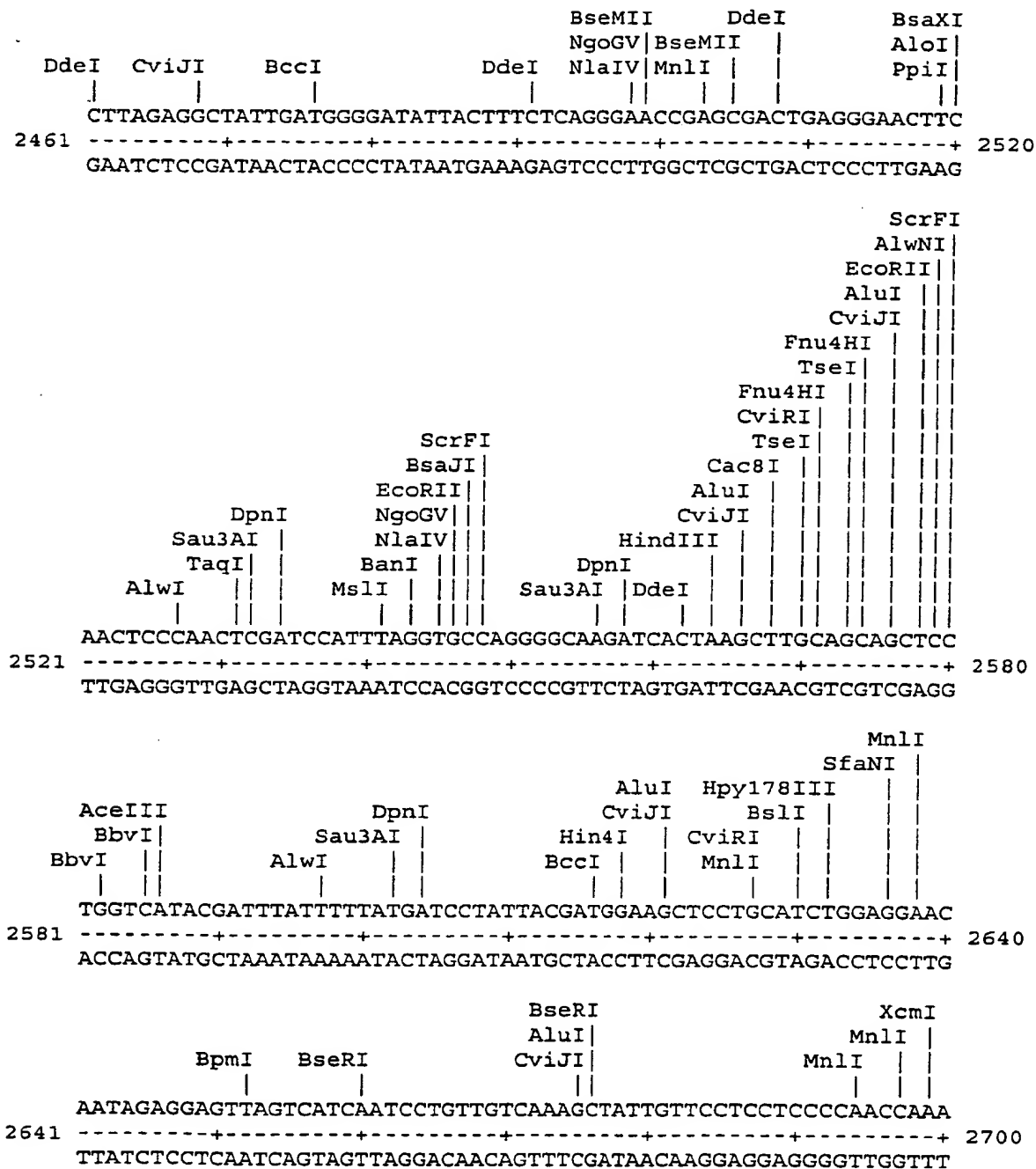
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Figure 9 (continued)



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Figure 9 (continued)



0066997 400404

Figure 9 (continued)

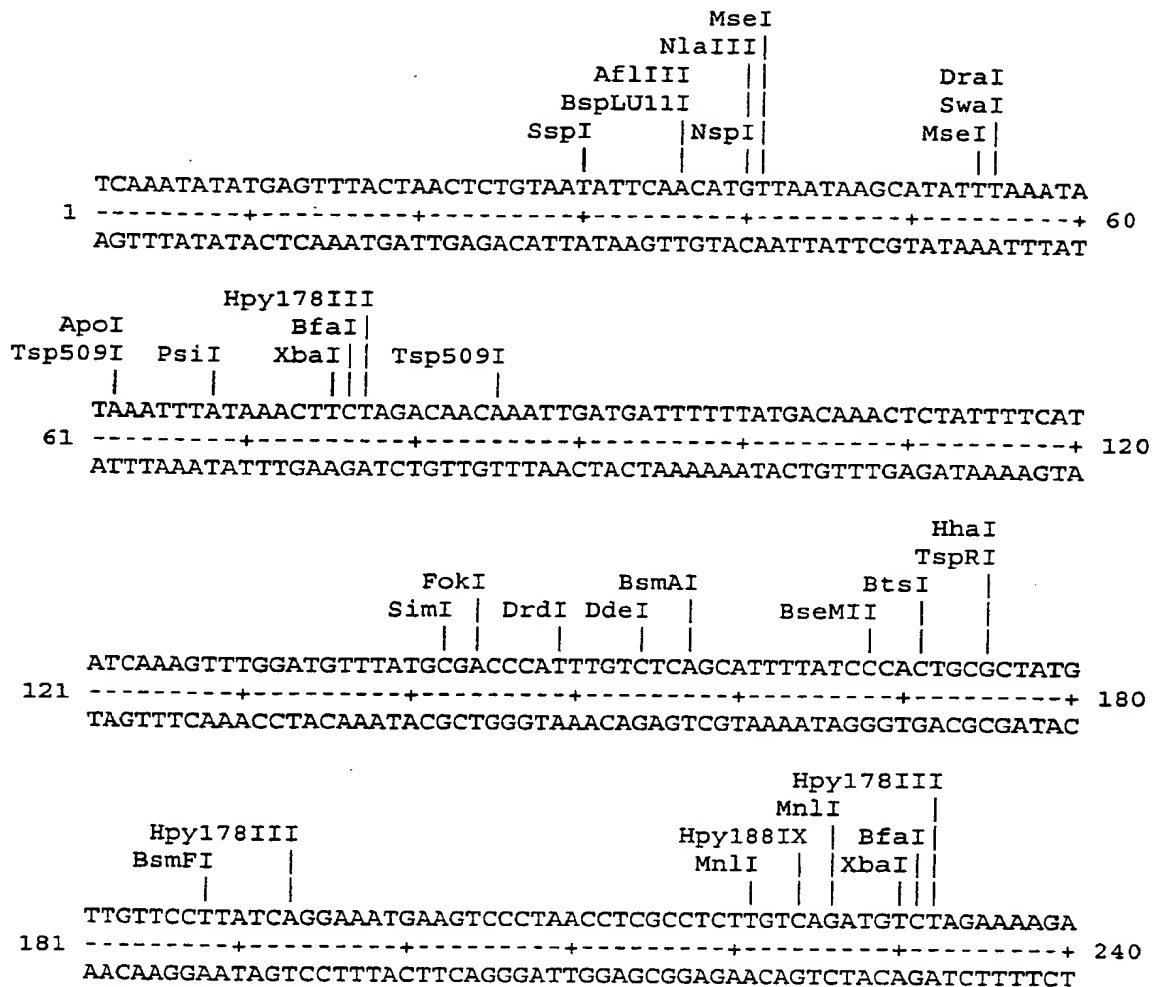
AvaII
 Sau96I
 BslI
 PflMI
 BsmI
 Bce83I
 MboII
 Hpy178III
 SmlI
 CviJI
 ApoI
 Tsp509I
 AAATGGTCCTATATAGAAAGAAAAACGAATGCTCTTTGTAAAGGCTCAAGAGTAAAAAATTC
 2701 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ 2760
 TTTACCAGGATATATCTTCTTTTTGCTTACGAGAAACATTCGAGTTCTCATTTTTTAAG
 Hpy188IX
 Bcefi
 BbvI
 Fnu4HI
 TseI
 Eco57I
 ApoI
 EcoRI
 Tsp509I
 TAAAGGTATTCTCTCAATAGGTTCTGAAGTGCTGCCGTAGAATTCATAAATATCTC
 2761 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ 2816
 ATTTCCATAAGAGAGTTATCCAAGACTTCACGACGGCATCTTAAGTATTTATAGAG

SECRET

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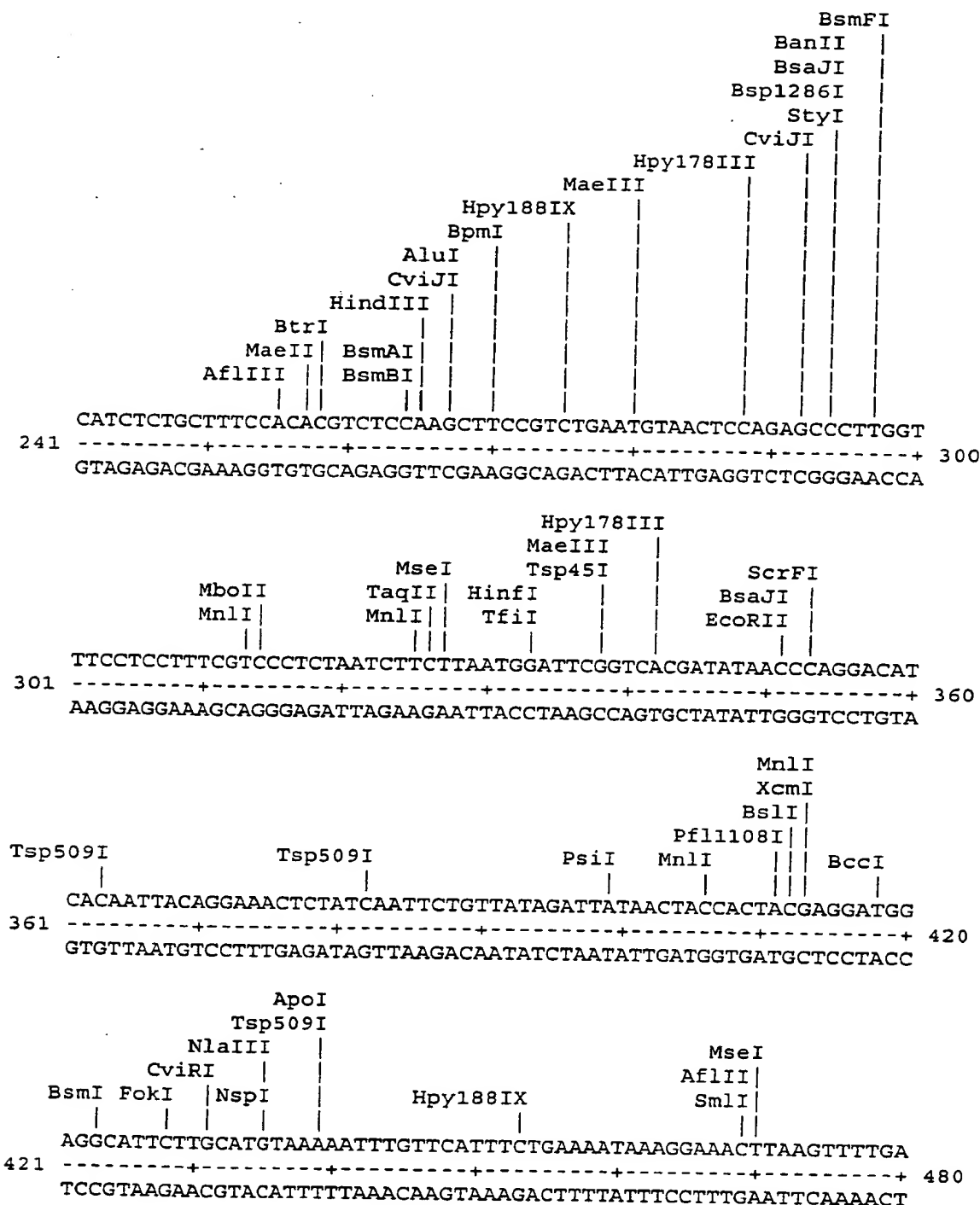
Figure 9

Restriction enzyme analysis of CPN100624 (RY 64 - SEQ ID NO. 9)



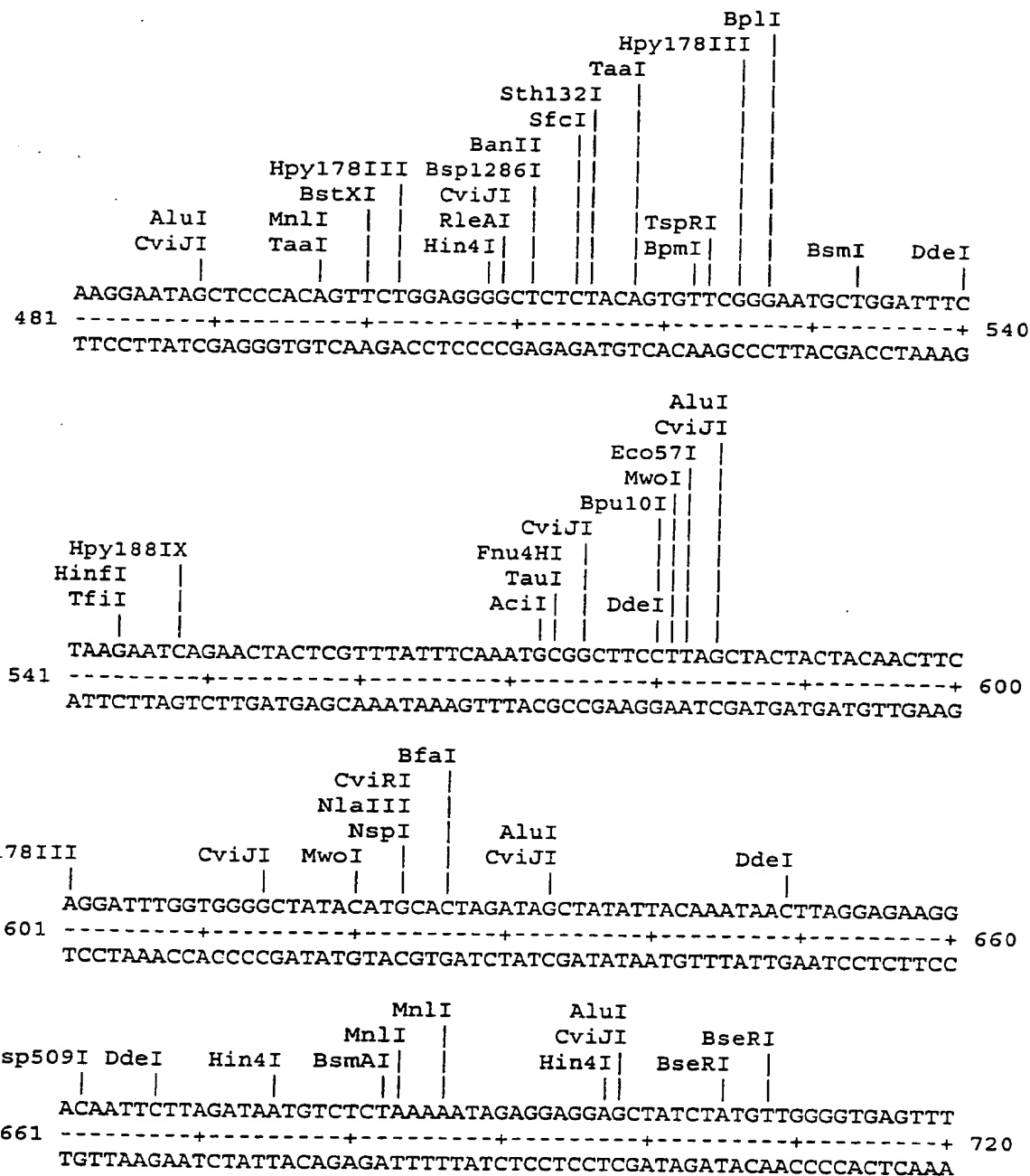
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Figure 9 (continued)



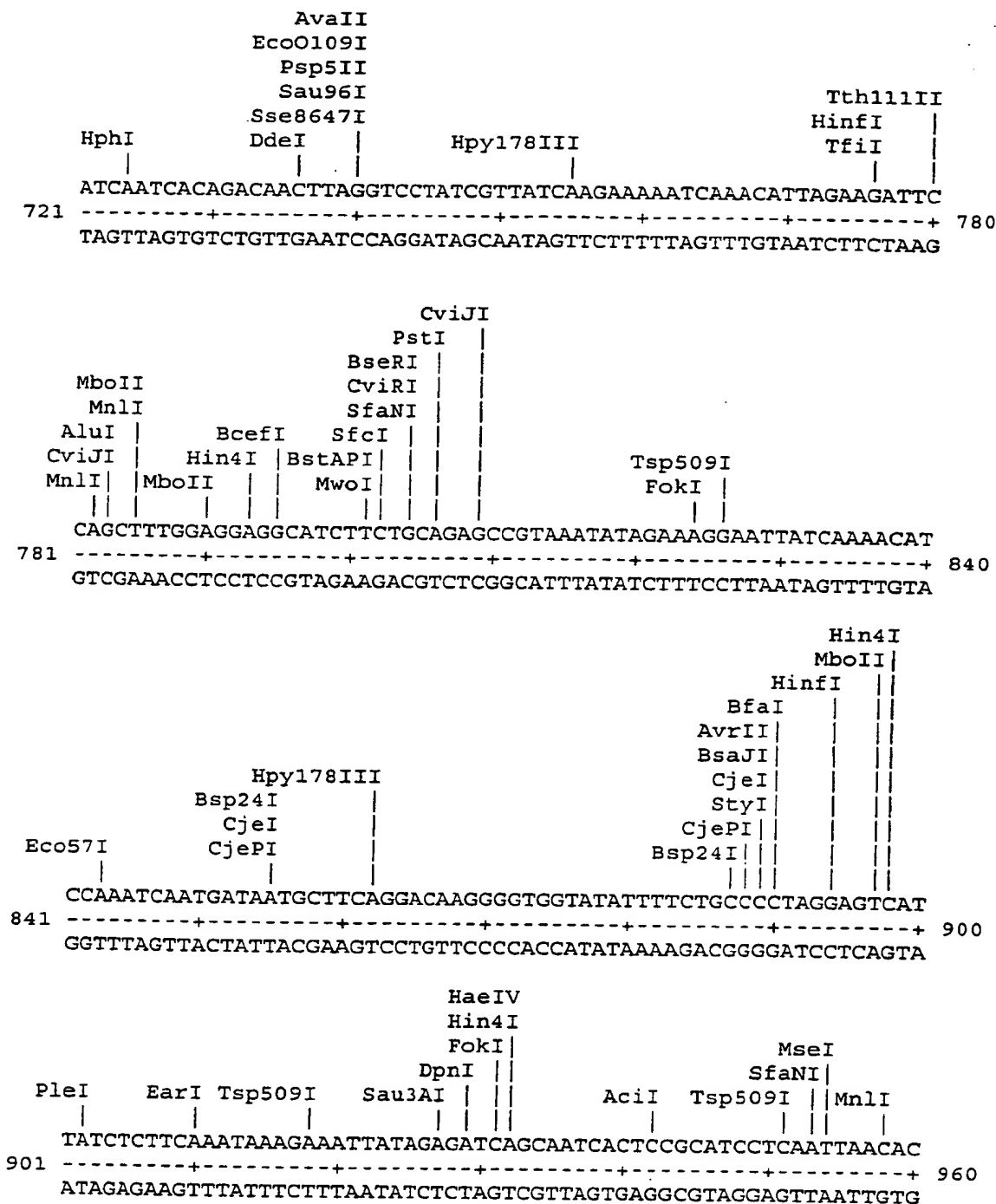
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Figure 9 (continued)



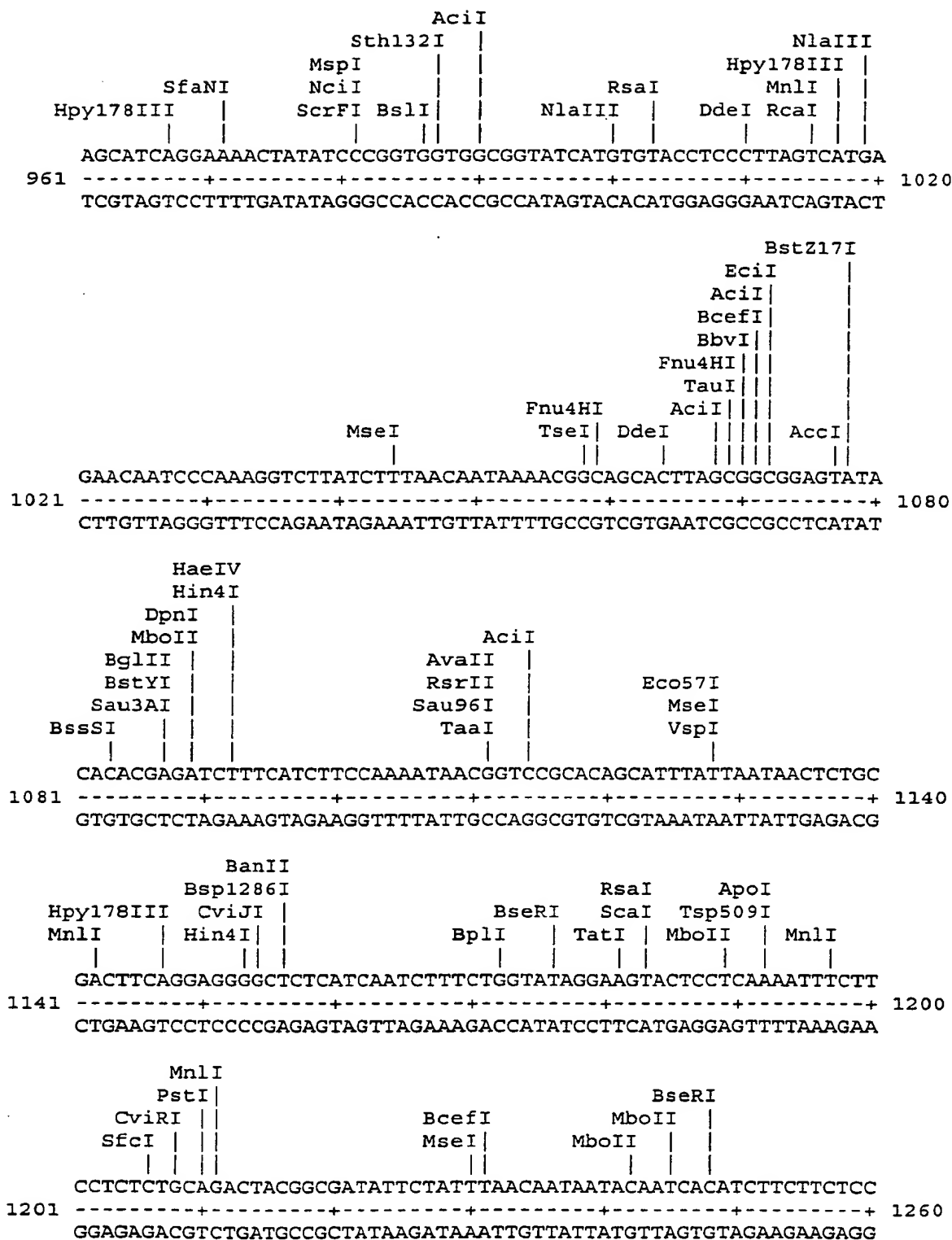
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Figure 9 (continued)



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Figure 9 (continued)



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Figure 9 (continued)

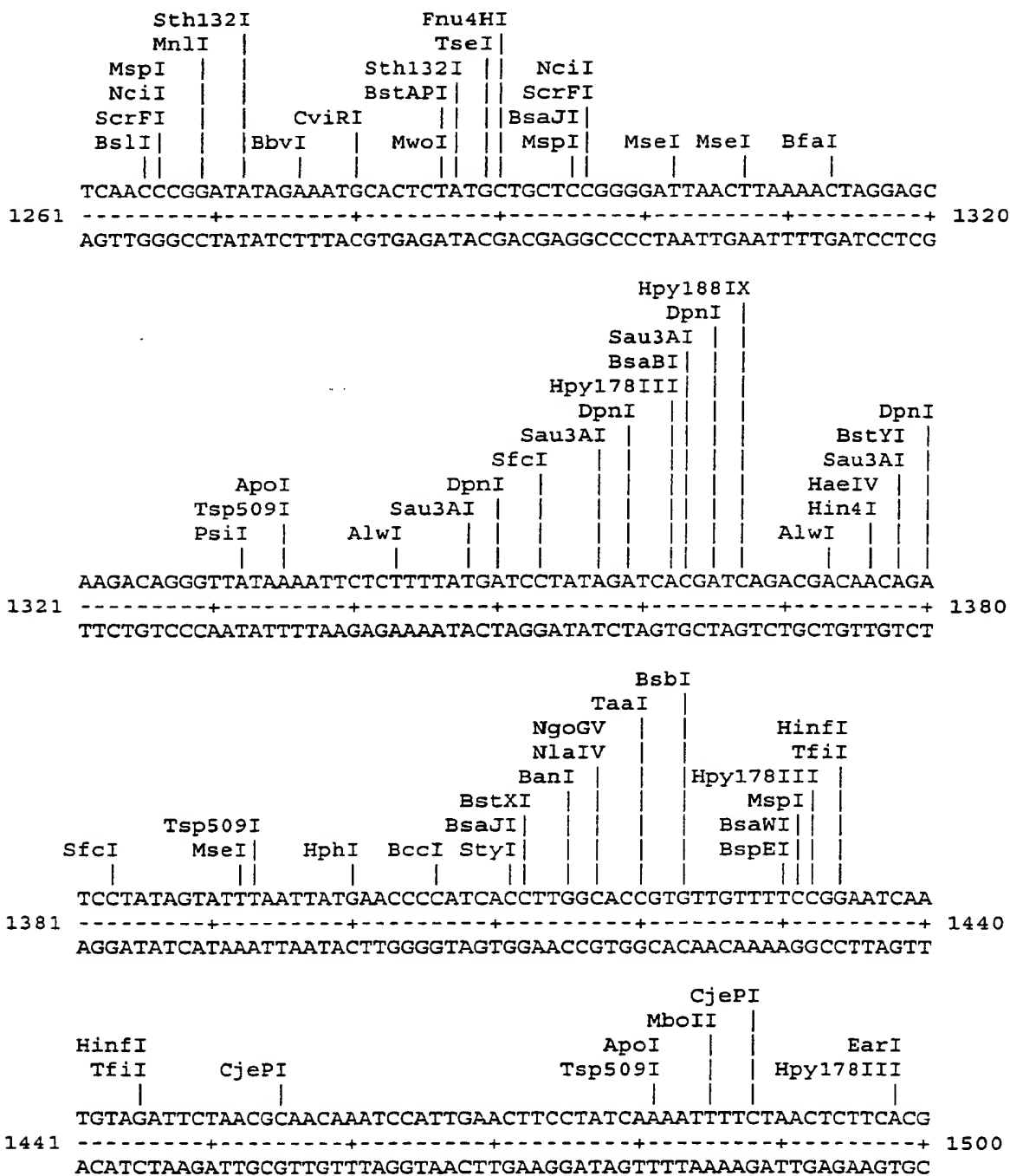
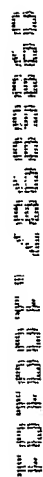
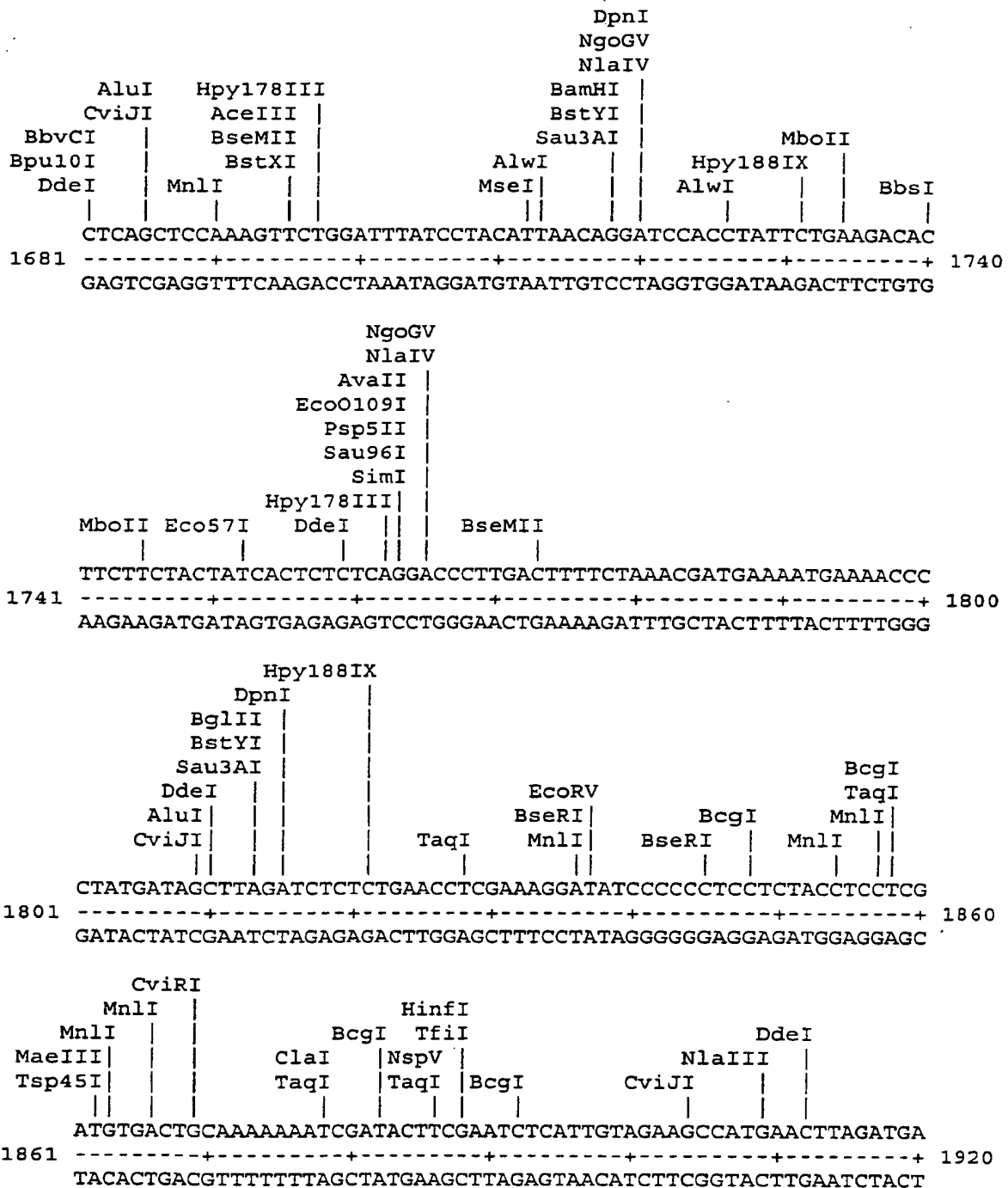


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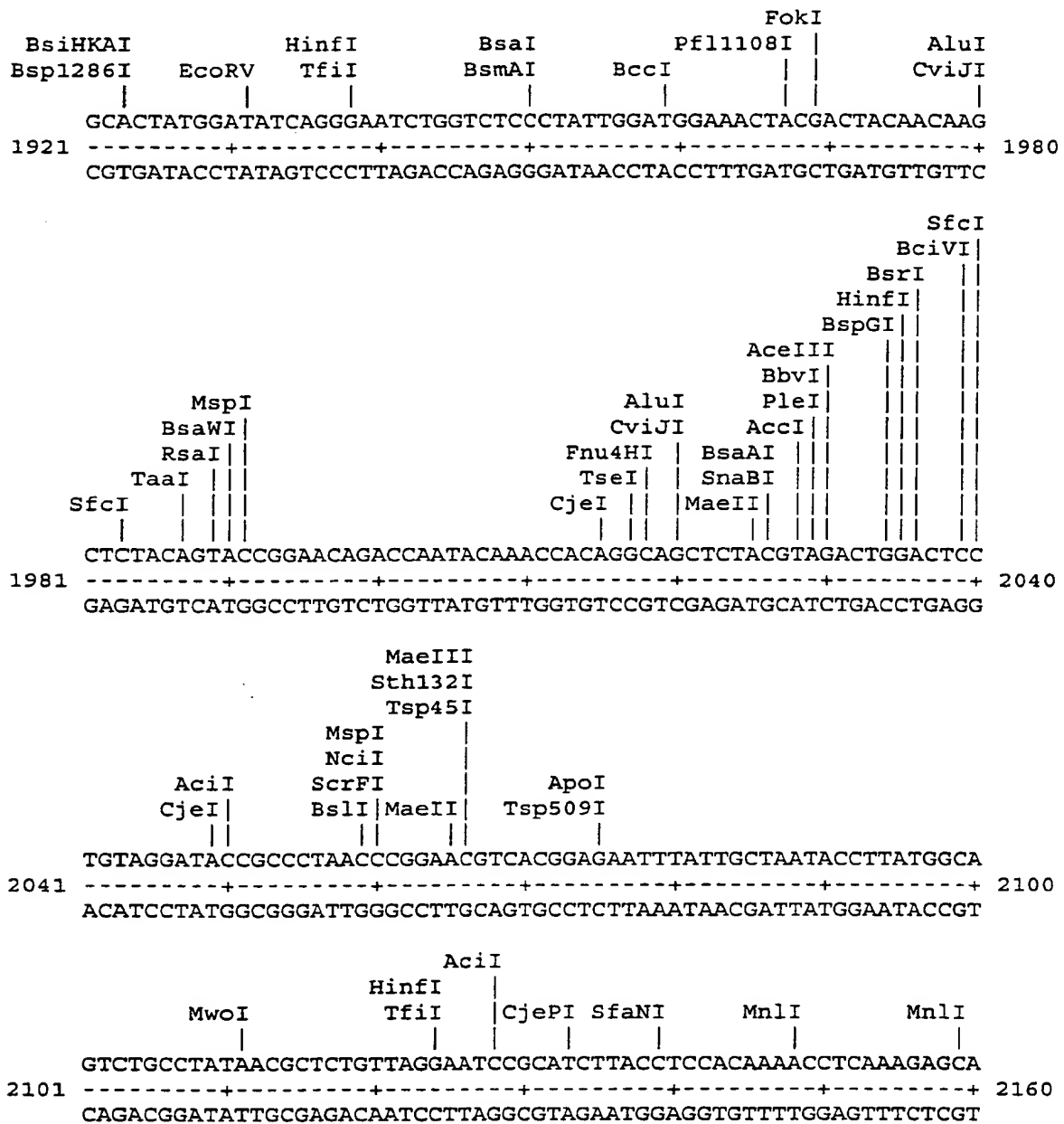
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Figure 9 (continued)



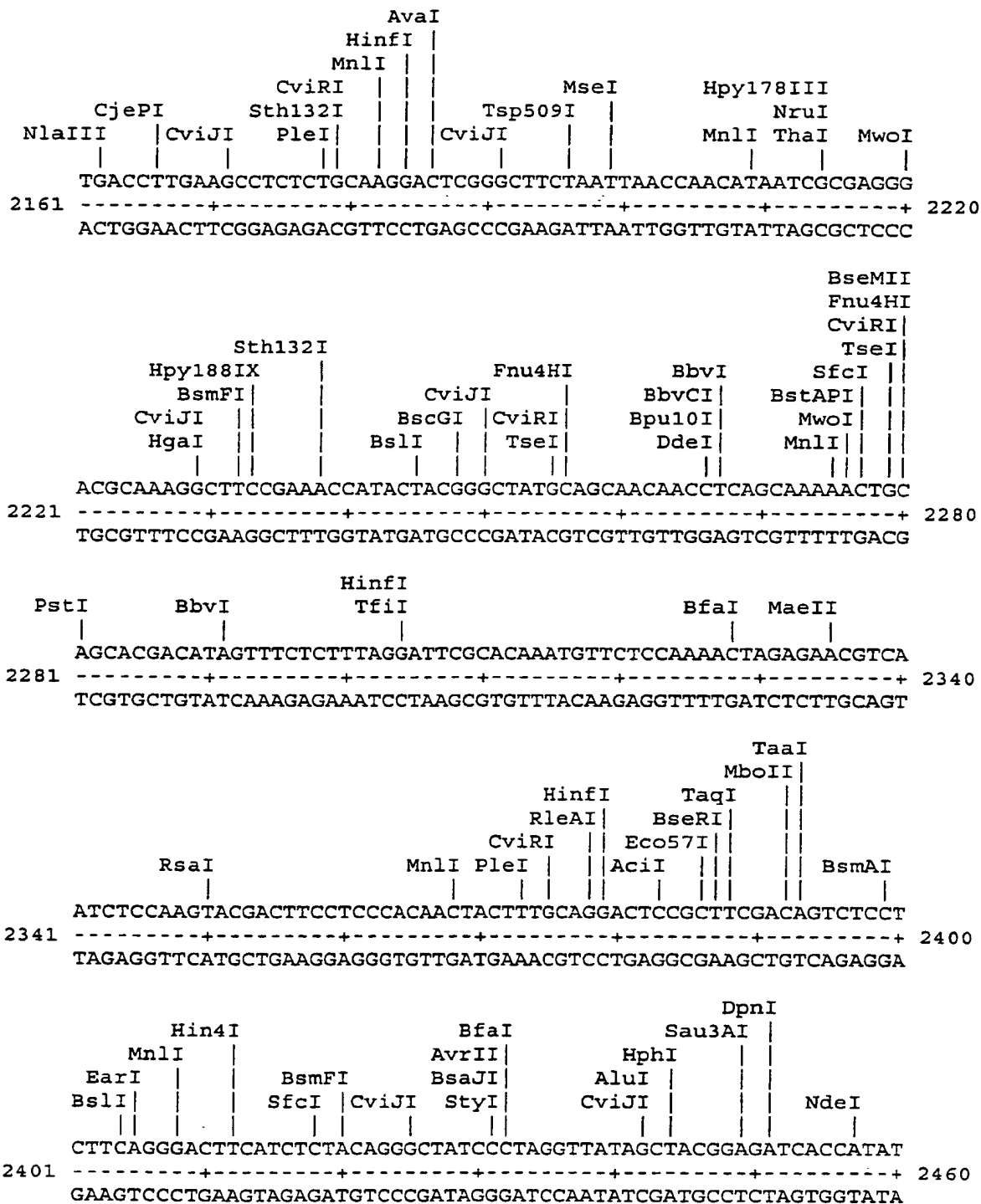
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Figure 9 (continued)



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Figure 9 (continued)



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Figure 9 (continued)

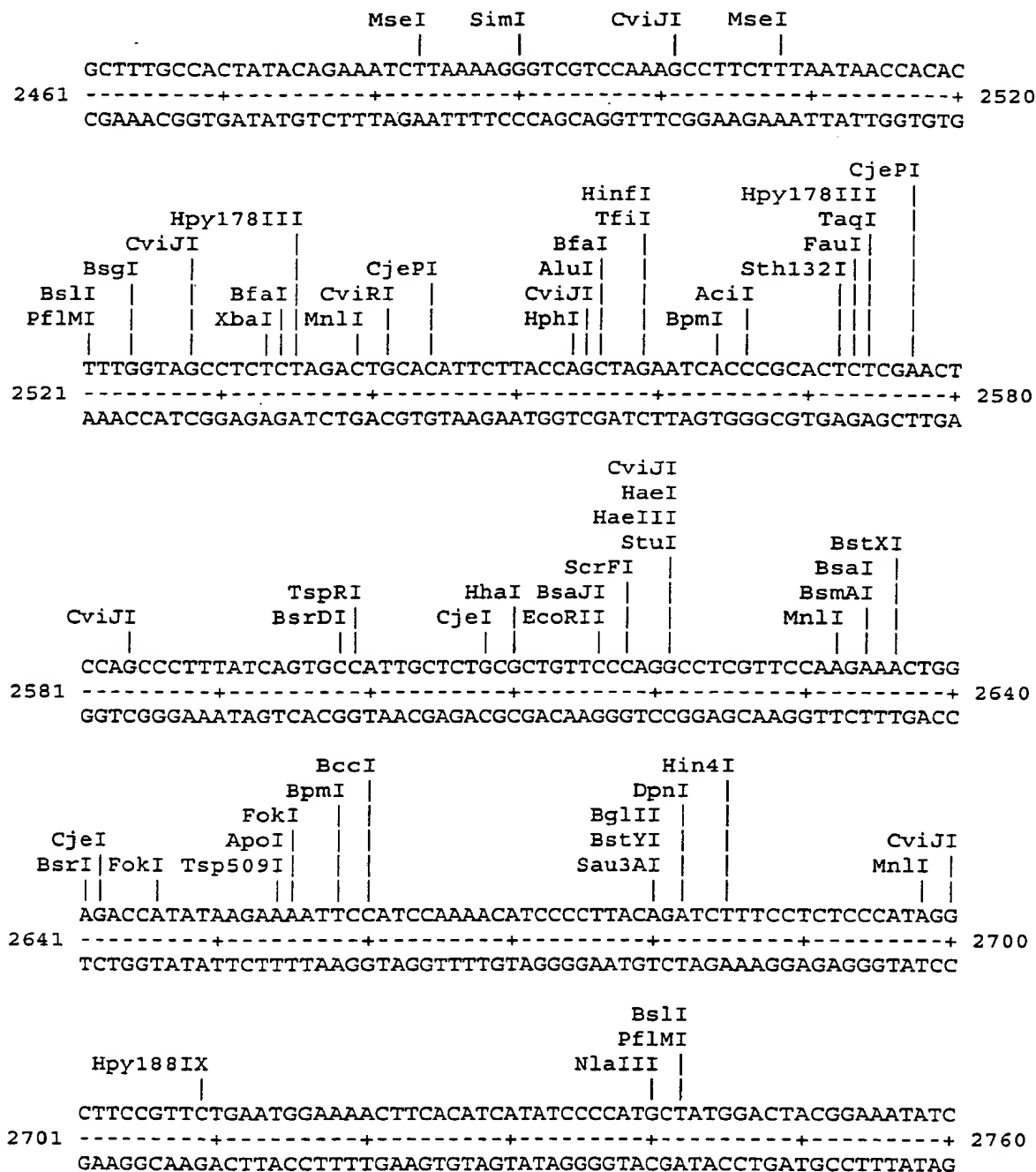


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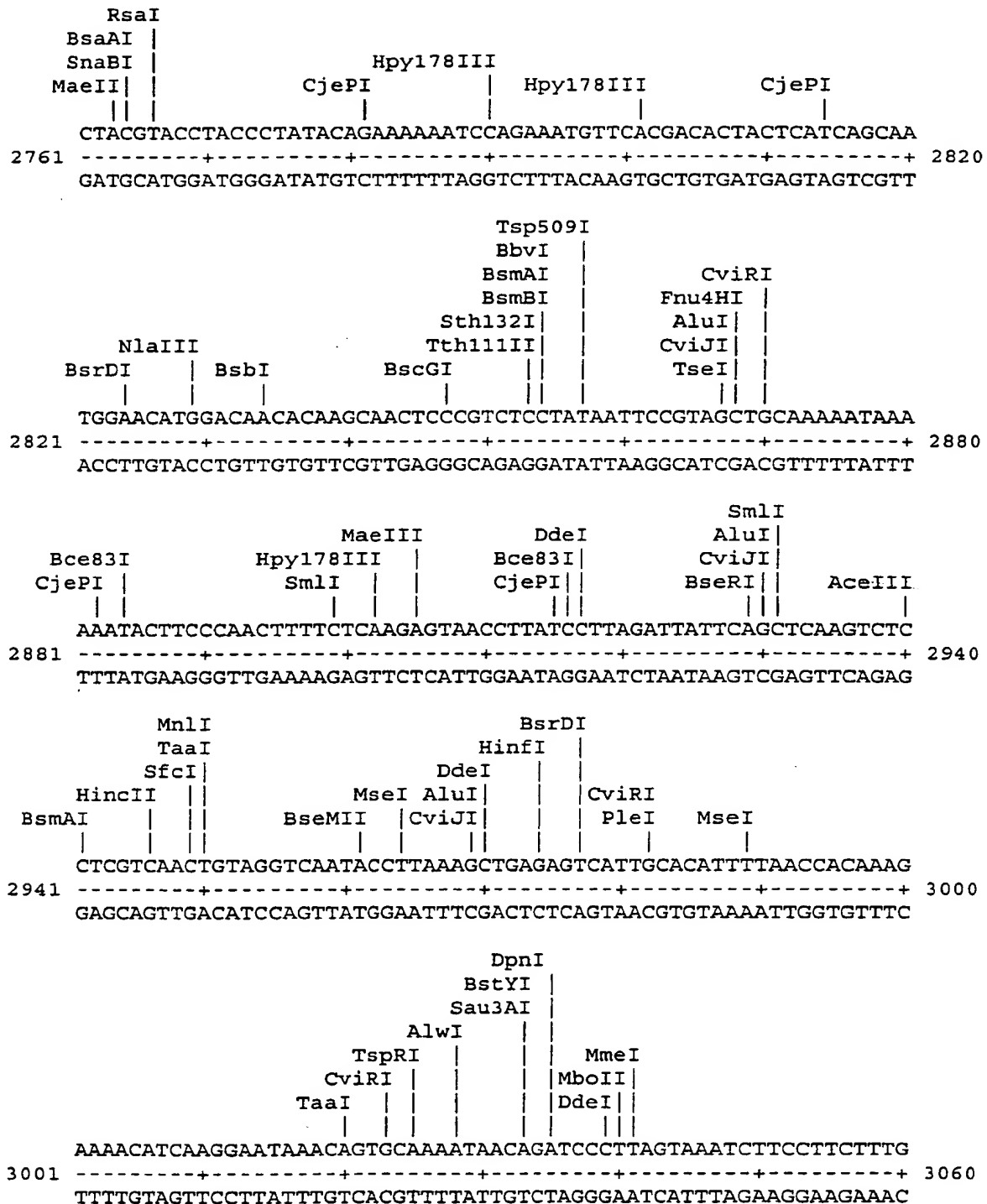


Figure 9 (continued)

```

      Tsp509I
      MseI
      CviJI
      NgoGV
      NlaIV
      ||
TTGGAGCCTTAATTTTAGGTAAACTACAATA
3061 -----+-----+-----+----- 3092
AACCTCGGAATTAAATCCATTTTGATGTTAT

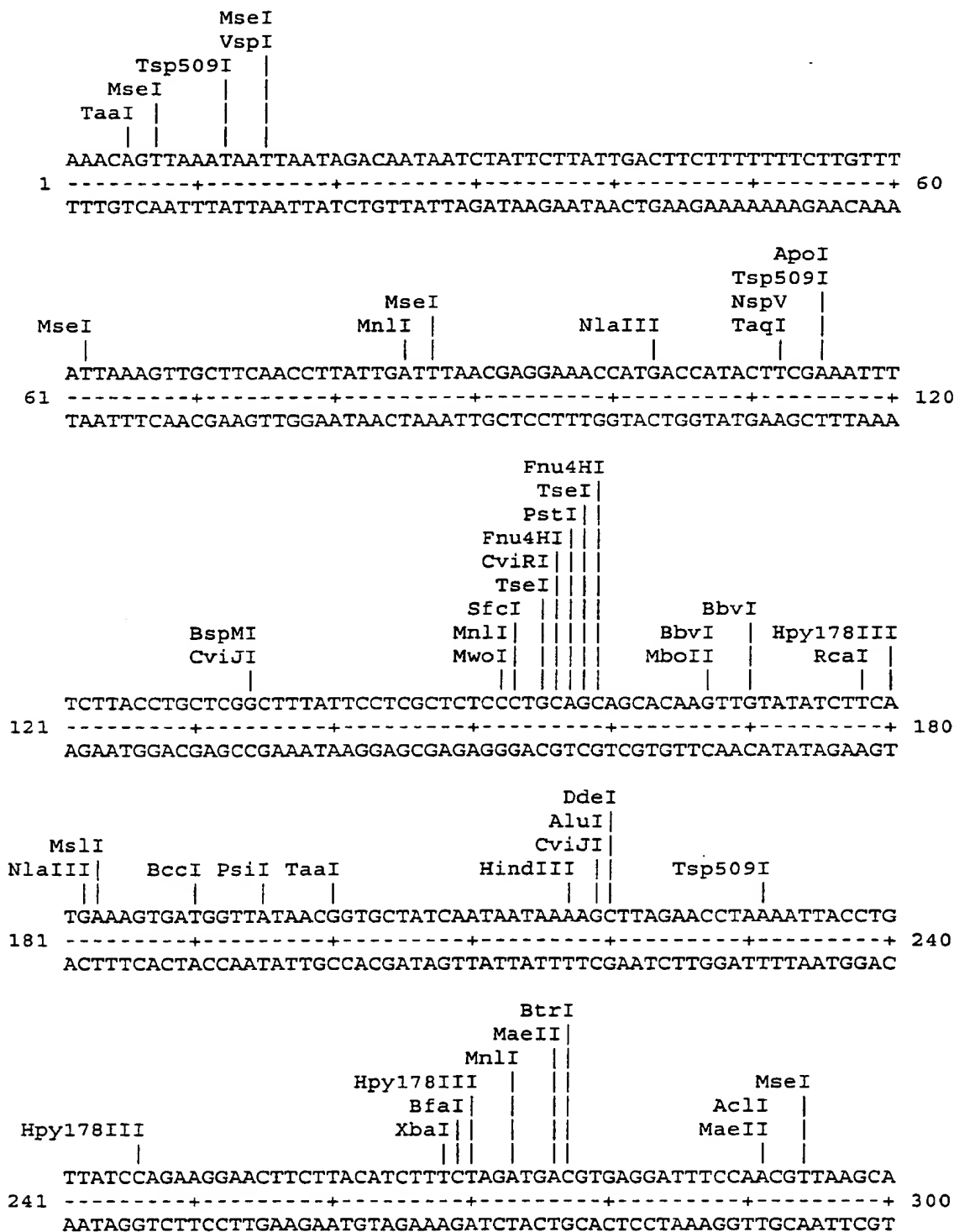
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Figure 10

Restriction enzyme analysis of CPN100633 (RY 65 - SEQ ID NO. 10)



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Figure 10 (continued)

Hpy178III
 DpnI
 NlaIII
 BclI
 Sau3AI
 SfaNI
 DpnI
 Sau3AI
 ClaI
 HinfI
 TfiI
 NlaIII
 MmeI
 MboII
 PsiI
 TaqI
 301
 TGATCAAGAAGATGCTGGGGTTTTTATAAATCGATCTGGGAATCTTTTTTTCATGGGCAA
 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 360
 ACTAGTTCTTCTACGACCCCAAAAATATTTAGCTAGACCCTTAGAAAAAAGTACCCGTT
 CviRI
 BstAPI
 MwoI
 TaalI
 BbvI
 BsaJI
 MnlI
 CjePI
 Fnu4HI
 HaeII
 HhaI
 TaqII
 TseI
 MmeI
 NspV
 TaqI
 361
 CCGTTGCAACTTCACTTTTTACAACTTATGACCGAGGGTTTTGGCGCTGCCATTTTCGAA
 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 420
 GGCAACGTTGAAGTGAAAAGTGTGGAATACTGGCTCCCAAACCGCGACGGTAAAGCTT
 CjePI
 BsmAI
 ThaI
 AciI
 CjePI
 Tsp509I
 CjePI
 DdeI
 HphI
 Bce83I
 BbvCI
 Bpu10I
 DdeI
 421
 CCGCGTTGGAGACACCACTCTCACTCTCTAATTTTTCTTACTTAGCGTTCACCTCAGC
 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 480
 GGCGCAACCTCTGTGGTGAGAGTGAGAGAGATTAAAAAGAATGAATCGCAAGTGGAGTCG
 MnlI
 SmlI
 BseMII
 MnlI
 MnlI
 HaeIV
 Hin4I
 NgoGV
 NlaIV
 DrdII
 Sau3AI
 MnlI
 TaqI
 DpnI
 481
 ACCTCTACTACCTCAAGGACAAGGAGCGATTATAGTCTTGGTTCCGTGATGATCGAAAA
 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 540
 TGGAGATGATGGAGTTCCTGTTCTCGCTAAATATCAGAACCAAGGCACTACTAGCTTTT
 MaeIII
 RleAI
 Tsp45I
 Bsp24I
 CjeI
 CjePI
 MboII
 CjeI
 AceIII
 CjeI
 Bsp24I
 BbvI
 AceIII
 Fnu4HI
 AluI
 CviJI
 TseI
 Hin4I
 CjeI
 541
 TAGTGAGGAAGTGACTTTCTGTGGGAAGTACTCTTCGTGGAGTGGAGCTGCGATTTATAC
 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 600
 ATCACTCCTTCACTGAAAGACACCCTTGATGAGAAGCACCTCACCTCGACGCTAAATATG

Figure 10 (continued)

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- 1. The first part of the document is a list of references. The references are listed in a vertical column on the left side of the page. The references are:

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Figure 10 (continued)

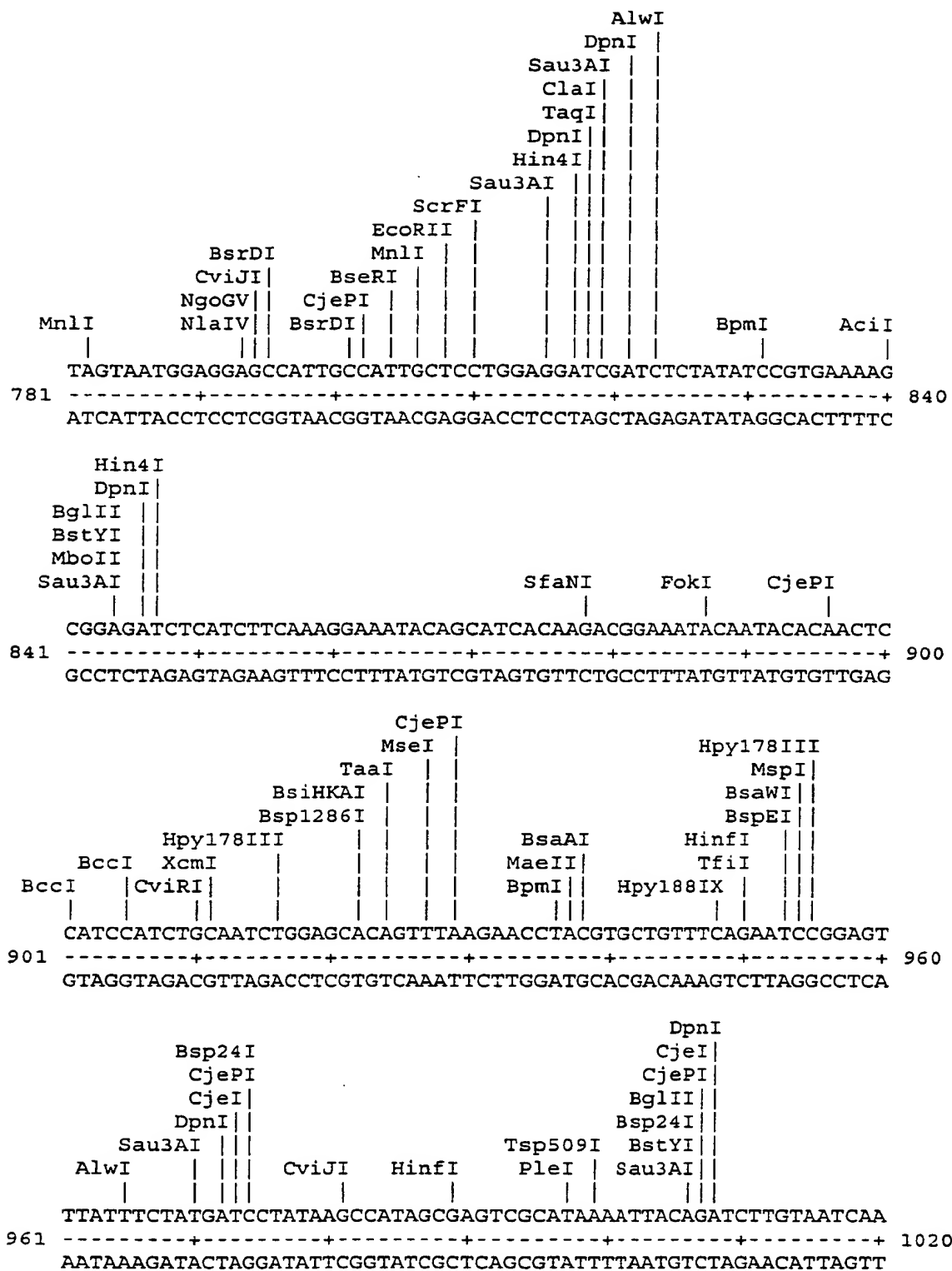


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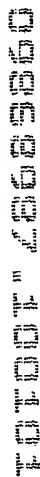
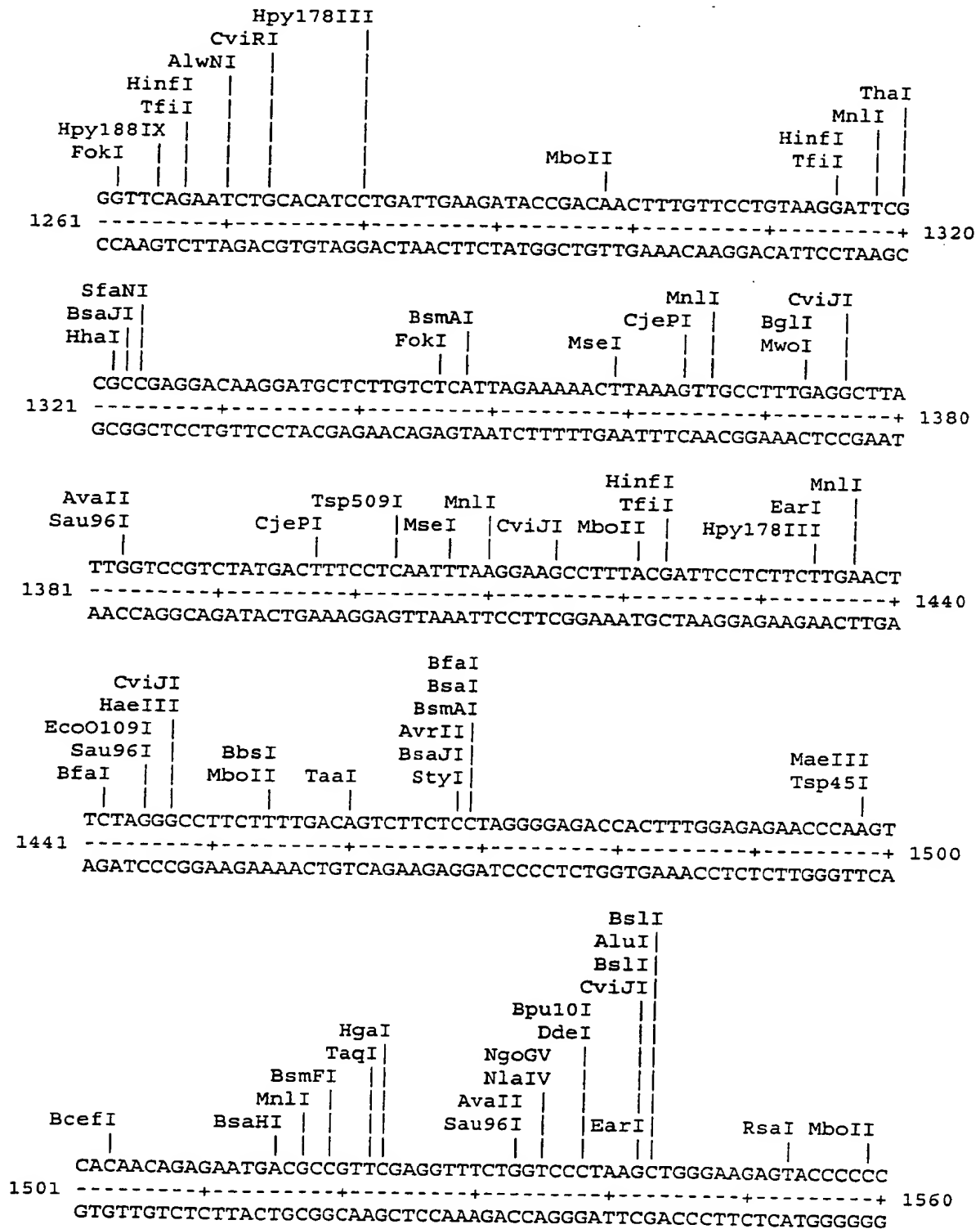


Figure 10 (continued)



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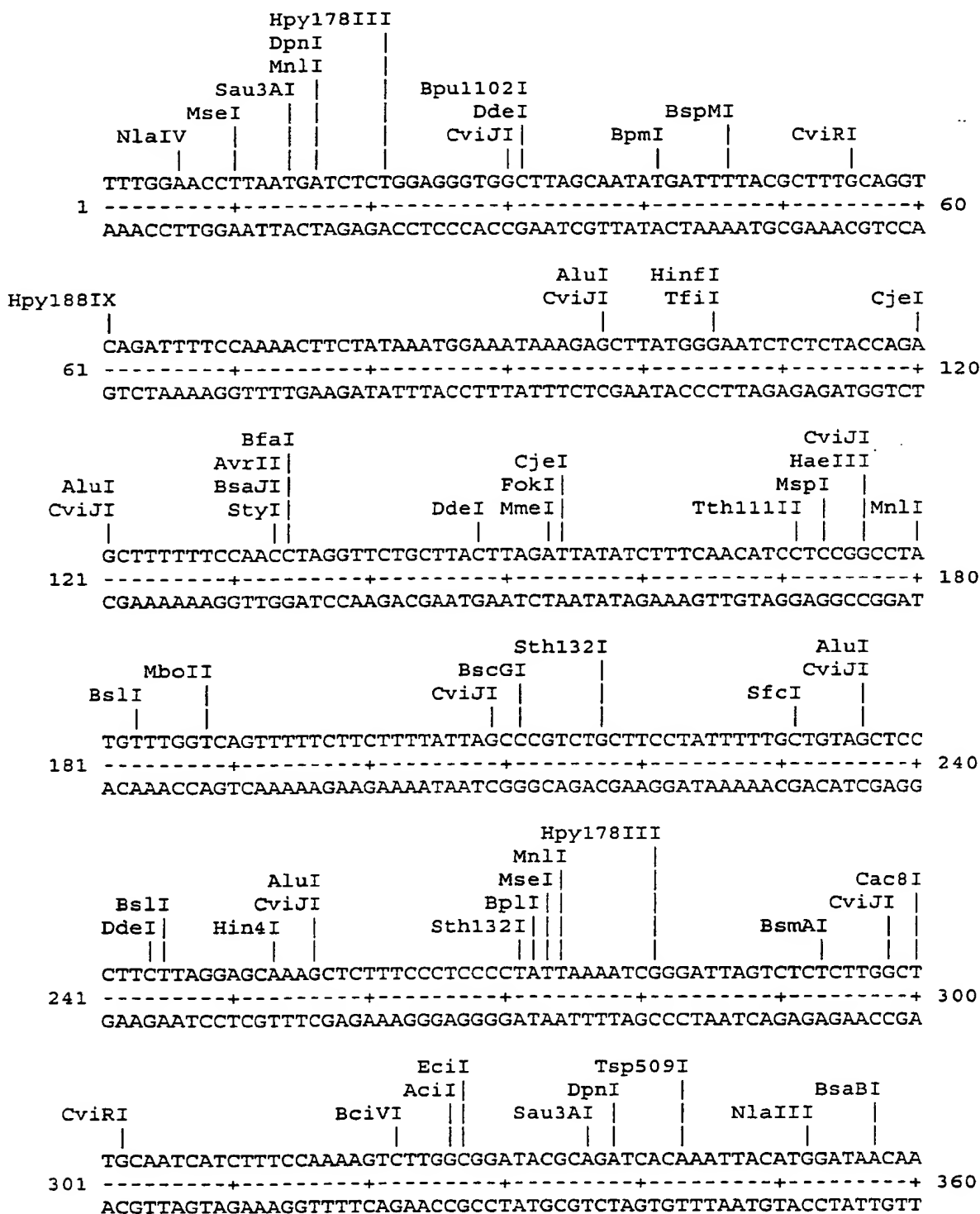
Figure 10 (continued)

Hpy178III
 BslI
 DpnI
 Sau3AI
 AlwI
 DdeI
 TaaI
 BseMII
 HinfI
 TfiI
 MnlI
 1561
 TTCTCTGGATAAAGACAGAAGGATCACACCAACTAAGAAAAGTGTTCCTCACTTGGAA
 AAGAGACCTATTTCTGTCTTCCTAGTGTGGTTGATTCTTTTGACAAAAGGAGTGAACCTT
 1620
 DpnI
 Sau3AI
 DdeI
 Hpy178III
 DdeI
 AccI
 Tsp509I
 MseI
 HinfI
 TfiI
 1621
 TCCTGAGATCACTTCTACGCCATAATCTCTAAGTCTACACTATAATTAAGGGAATCCCCCT
 AGGACTCTAGTGAAGATGCGGTATTAGAGATTCAGATGTGATATTAATTCCTTAGGGGA
 1680
 MboII
 NgoGV
 NlaIV
 AvaII
 EcoO109I
 Psp5II
 Sau96I
 MseI
 Hpy188IX
 BsmFI
 NgoGV
 NlaIV
 AvaII
 EcoO109I
 Psp5II
 Sau96I
 BssSI
 NlaIII
 AflIII
 BspLU11I
 MnlI
 CviRI
 NspI
 1681
 TTAAGAAGATTTTGGGACCTATCTGTATTCAGAGATAGGTCCCTCTATGCACACATGTTC
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 1740
 Hpy178III
 ACGAG
 1741
 TGCTC

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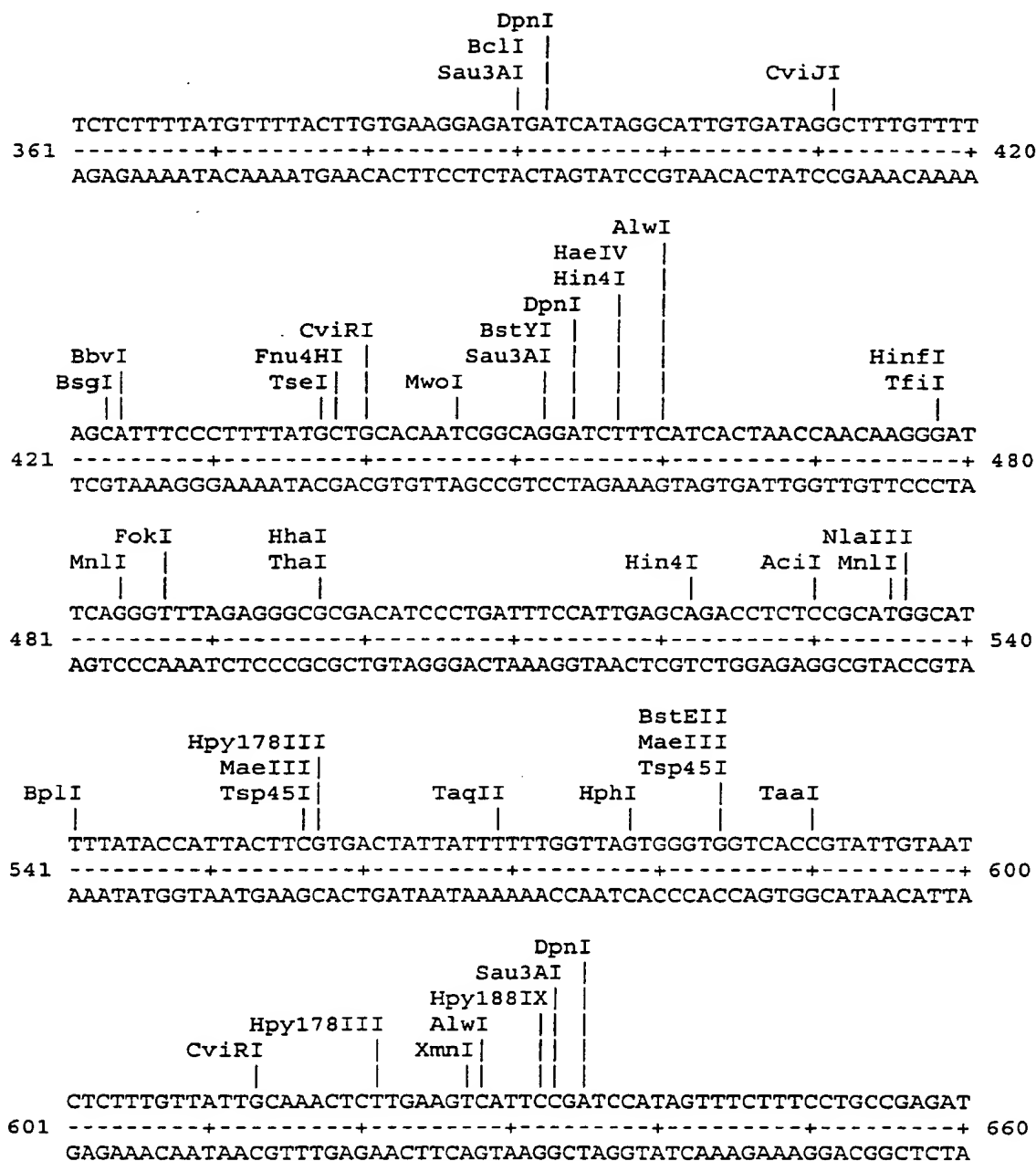
Figure 11

Restriction enzyme analysis of CPN100985 (RY 66 - SEQ ID NO. 11)



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Figure 11 (continued)



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Figure 11 (continued)

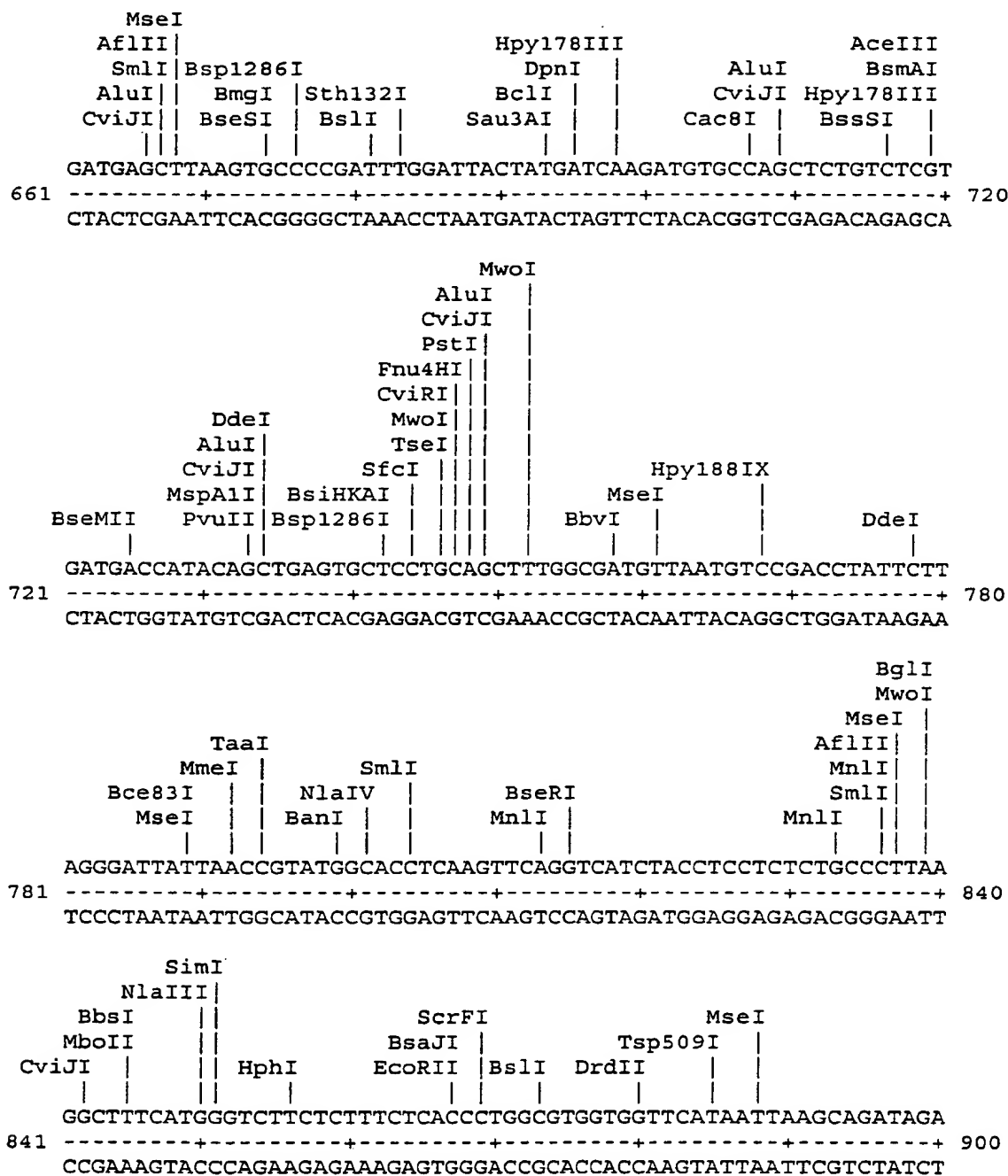


Figure 11 (continued)

Tth111III | DrdII | BfaI |
 BsmFI | AvrII |
 BsaJI |
 StyI |
 Tth111III | Bce83I | NlaIV | SmlI |
 TTATTTCACTCTTGCTTGGTTCAAAGAAGTCCCCATTATGCTCCTAGGTTCCAACCCTCA
 901 -----+-----+-----+-----+-----+ 960
 AATAAAGTGAGAACGAACCAAGTTTCTTCAGGGGTAATACGAGGATCCAAGGTTGGGAGT

 Hpy178III
 SfaNI |
 CviJI | HinfI |
 BfaI | Hpy178III |
 MmeI | MaeIII |
 RsaI | Tsp45I |
 ScaI | PleI | HhaI | BpmI |
 TatI | StyI | Hin4I | HinfI |
 TfiI |
 AGTACTCTAATCCCCTAGGCTCTTATCGTGACTCTTATCTGGAGATGCGCTCACTTACGA
 961 -----+-----+-----+-----+-----+ 1020
 TCATGAGATTAGGGGATCCGAGAATAGCACTGAGAATAGACCTCTACGCGAGTGAATGCT

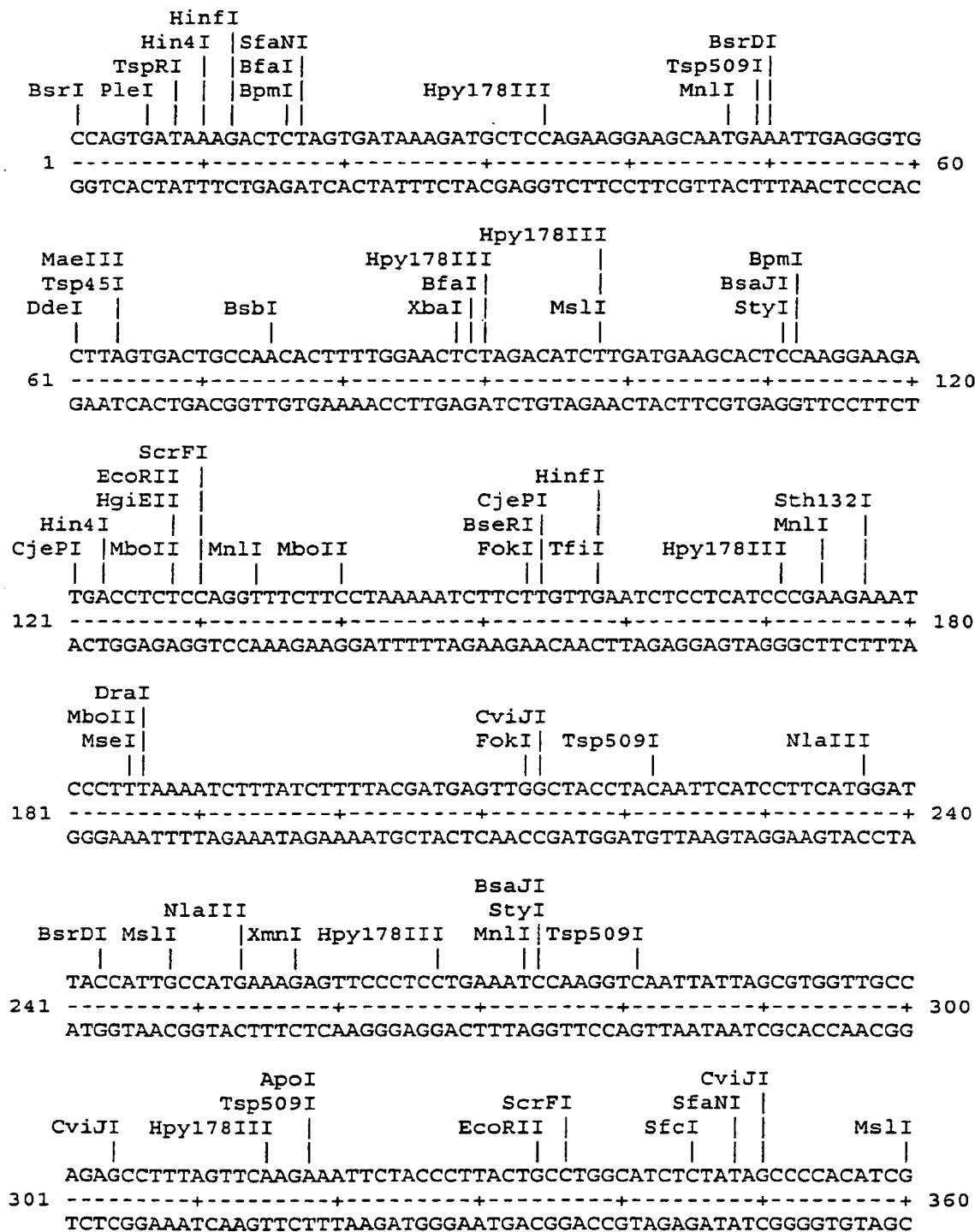
 BplI | TspRI | CjeI |
 DdeI | TaaI | HinfI |
 CjeI | HhaI | DdeI | TfiI | DdeI |
 ATCTTAGCGCACTGTTTATGGATTATCTTAGGGAATCTCTCGCATATTCTTTTGTAACT
 1021 -----+-----+-----+-----+-----+ 1080
 TAGAATCGCGTGACAAATACCTAATAGAATCCCTTAGAGAGCGTATAAGAAAACATTAGA

 Hpy178III
 HinfI | ApoI |
 TfiI | Tsp509I |
 AAGAATCTATAAATTCAAGA
 1081 -----+-----+ 1100
 TTCTTAGATATTTAAGTTCT

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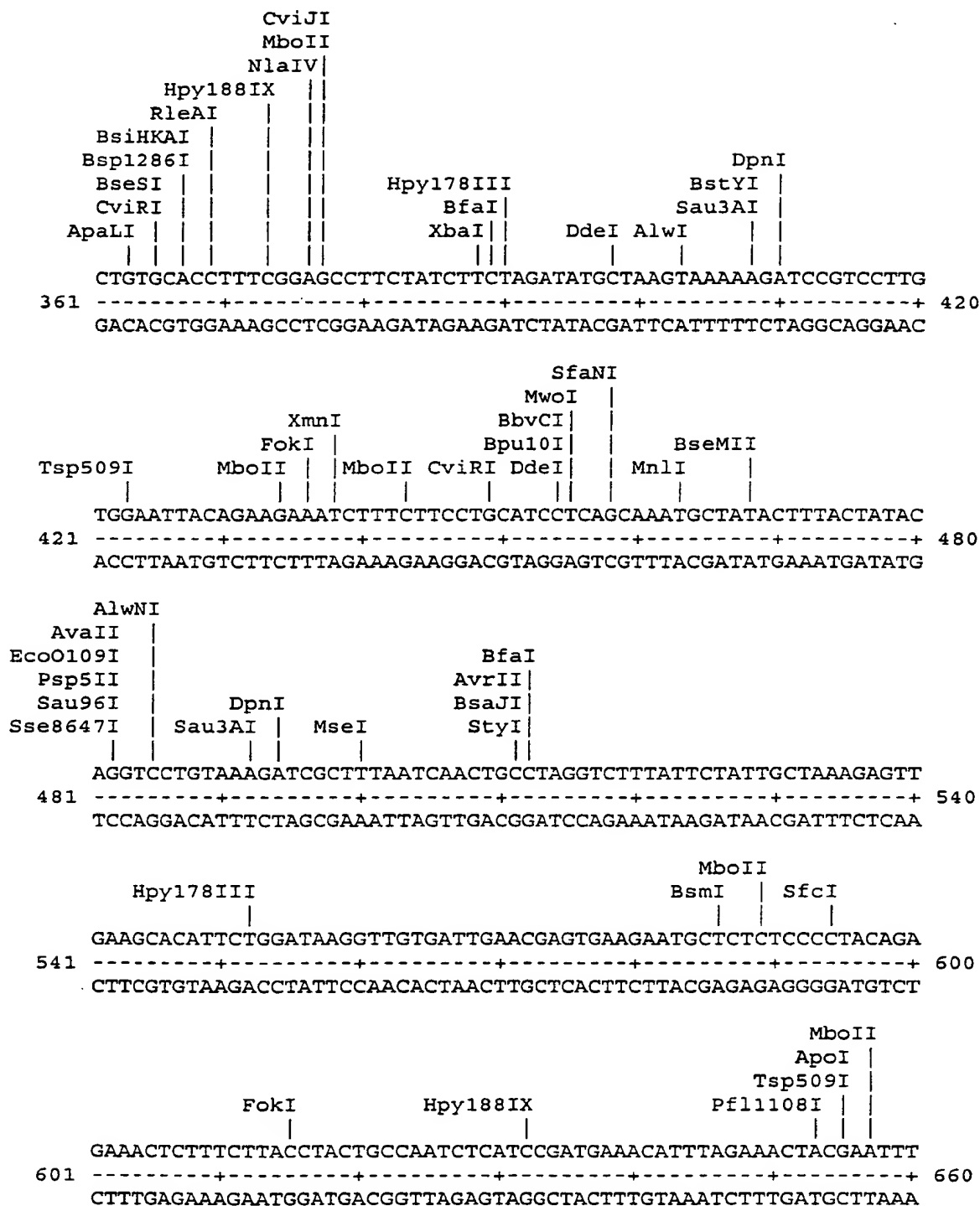
Figure 12

Restriction enzyme analysis of CPN100987 (RY 67 - SEQ ID NO. 12)



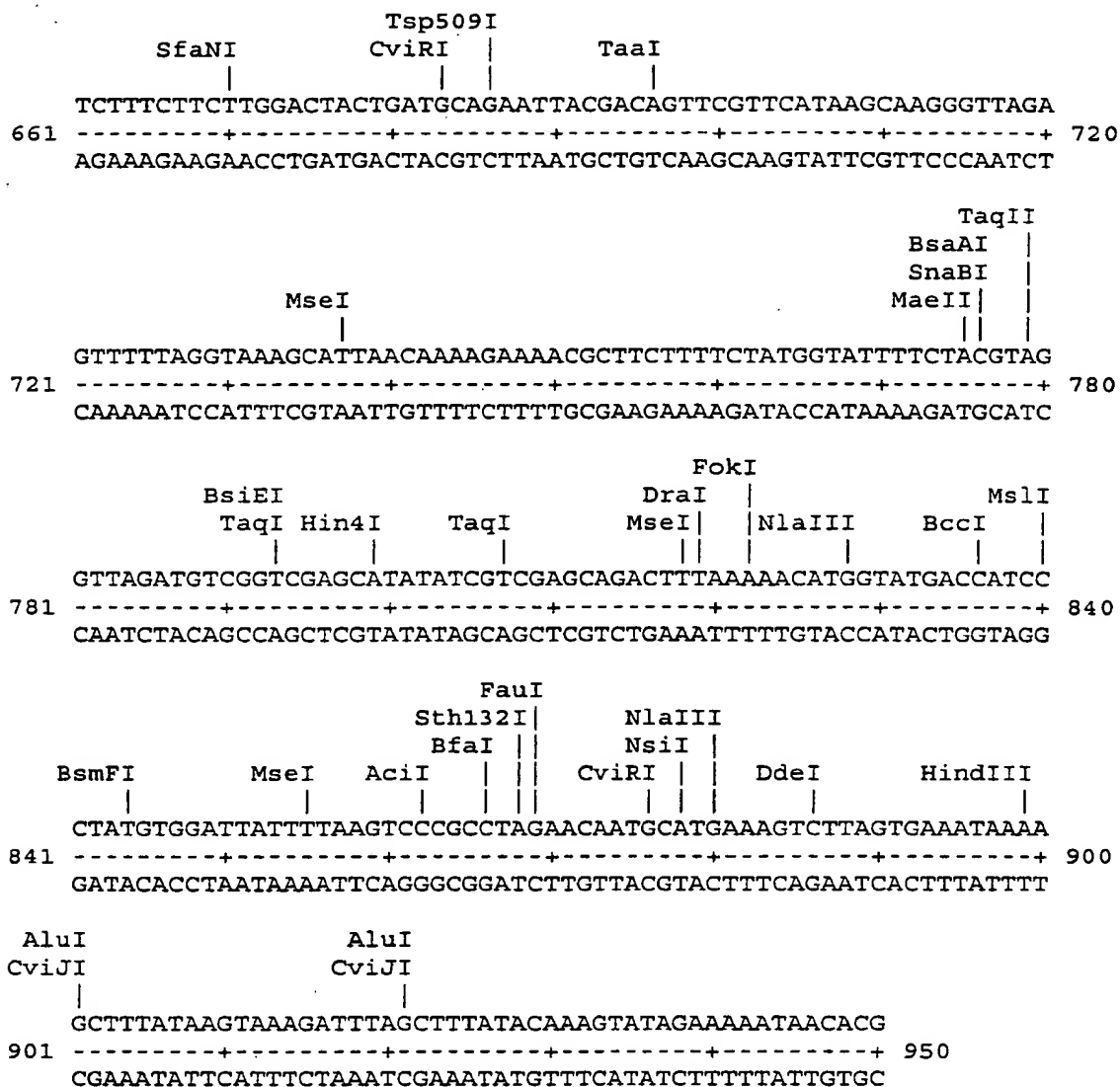
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Figure 12 (continued)



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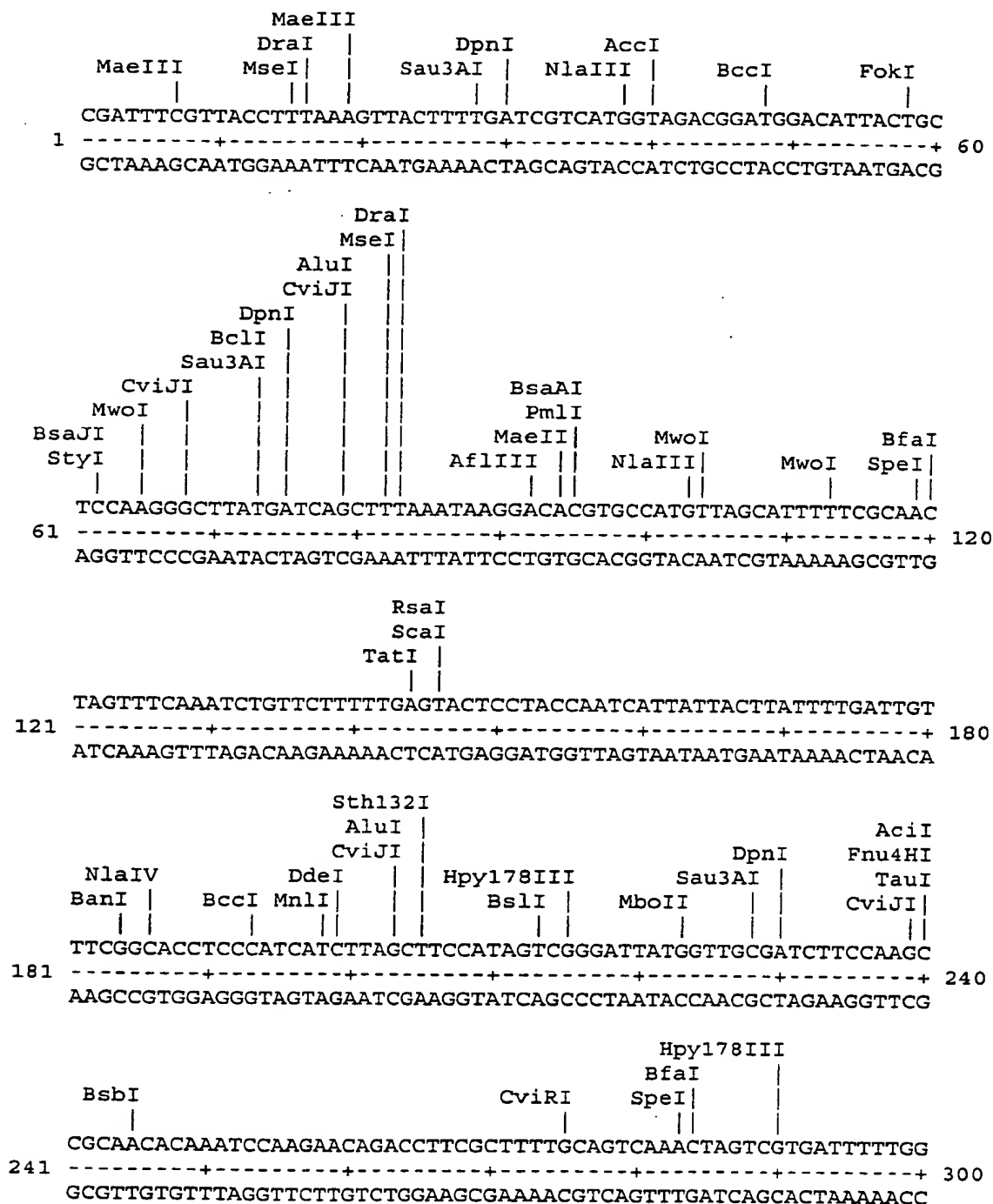
Figure 12 (continued)


 0066997 10041
 10041 0066997

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Figure 13

Restriction enzyme analysis of CPN100988 (ry68 - SEQ ID NO. 13)



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Figure 14: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 14; ORF: cpn100686

```
1 MVSSPILNVP LKNHASVSGK FTHREVSKLA SDLKSGAMSF VPEVLSEETI
51 SSDLGKKQCT QGIISACCGI AMLIVLMSVY YRFGGVIASG AVLLNLLLIW
101 AALQYLDAPL TLSGLAGIVL AMGMAVDANV LVFERIREEF LLSQSLKKS
151 EKGYTAKFGA IFDSNLTTVL ASALLFFLDI GPIKGFALT ILGIFSSMFT
201 ALFMTKFFFM LWMNKTQHTQ LHMMNKFVGI KHDFLRGCKK LWAVSGSVFL
251 LGCVALGFGA WNSVLGMDFK GGYAFTFNP EHGSDVAQM RGKVVKLQE
301 AGLSSRDFRI QTFGSSEKIK IYFSDKALSY TKQIRASLLK LTIMSWRYCG
351 IVVRNRPRFL YGNSKRNAKF WSKVSSKLSK KMRYQATIGL LGALAIILY
401 VSLRFWEQYA FSAVCAIHD LLATCAVLFI AHFFLKIKI DLQAIGALMT
451 VLGYSLNNTL IIFDRIREDR QANLFTPMHV LVNDALQKTF SRTVMTTATT
501 LSVLLMLLFI GGSSVFNFAP IMTIGILLGT LSSLYIAPPL LLFMVRKENR
551 SK
```

Possible T cell epitope:

427 VLFIAHFFL

Possible B cell epitope:

465 RIREDRQAN

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Figure 16: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 16; ORF: cpn100709

1 MTIRILAEGL AFRYGSKGPN IIHDVSFSVY DGDFIGIIGP NGGGKSTLTM
51 LILGLLTPTF GSLKTFPSHS AGKQTHSMIG WVPQHFSYDP CFPISVKDVV
101 LSGRLSQLSW HGKYKKKDFE AVDHALDLVG LSDTTTAFH HLGGGQIQRV
151 LLARALASYP EILILDEPTT NIDPDNQORI LSILKKLNRT CTILMVTHDL
201 HHTTNYFNKV FYMNKTLHFI GRHFDLNRPI LLSSYKNQEF SCSPH

Possible T cell epitope:

212 YMNKTLHFI

Possible B cell epitopes:

109 SWHGKYKKKDFE

166 DEPTTNIDPDNQOR

FIGURE 16

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Figure 17: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 17; ORF: cpn100710

1 MHKVIVFIFL TLYSLKSYGN DVIDKPHVLV SIAPYKFLVE QIAEETCFVY
51 AIVTNHYDPH TYELPPQQIK ELRQGDWFR IGEAFGKNLL EKPVMQQVDL
101 SQNVSLIQGK PCCNQHTTNY DTHTWLSPKN LKVQVETIVT TLSKKYPQHA
151 TLYQSNGEKL LLALDQLNEE ILTITSKAKQ RHILVSHGAF GYFCRDYNFS
201 QHTIEKSSHV EPSPKDVARV FRDIEQYKIS SVILLEYSGR RSSAMLADRF
251 HMHTVNLDPY AENVLVNLKT IATTFSSL

Possible T cell epitope:

125 WLSPKNLKV

Possible B cell epitope:

55 NHYDPHTYELPPQQIKELRQGD

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Figure 19: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 19; ORF: cpn100877

1 MRFSLCGFPL VFSFTLLSVF DTSLSATIS LTPEDSFHGD SQNAERSYNV
 51 QAGDVYSLTG DVSISNVDNS ALNKACFNVT SGSVTFAGNH HGLYFNNISS
 101 GTTKEGAVLC CQDPQATARF SGFSTLSFIQ SPGDIKEQGC LYSKNALMLL
 151 NNYVVRFEQN QSKTKGGAIS GANVTIVGNY DSVSFYQNA TFGGAIHSSG
 201 PLQIAVNQAE IRFAQNTAKN GSGGALYSDG DIDIDQNAYV LFRENEALTT
 251 AIGKGGAVCC LPTSGSSTPV PIVTFSDNKQ LVFERNHSIM GGGAIYARKL
 301 SISSGGPTLF INNISYANSQ NLGGAIAIDT GGEISLSAEK GTITFQGNRT
 351 SLPFLNGIHL LQNAKFLKLQ ARNGYSIEFY DPITSEADGS TQLNINGDPK
 401 NKEYTGTLF SGEKSLANDP RDFKSTIPQN VNLSAGYLV KEGAETVSK
 451 FTQSPGSHLV LDLGTKLIAS KEDIAITGLA IDIDSLSSSS TAAVIKANTA
 501 NKQISVTDSE ELISPTGNAY EDLRMRNSQT FPLLSLEPGA GGSVTVTAGD
 551 FLPVSPHYGF QGNWKLAWTG TGNKVGEFFW DKINYKPRPE KEGNLVPNIL
 601 WGNADVDRSL MQVQETHASS LQTDRLWID GIGNFFHVSA SEDNIRYRHN
 651 SGGYVLSVNN EITPKHYTSM AFSQLFSRDK DYAVSNNEYR MYLGSYLYQY
 701 TTSLGNIFRY ASRNPVNVVG ILSRRFLQNP LMIFHFLCAY GHATNDMKTD
 751 YANFPMVKNS WRNNCWAIEC GGSMPLLVFE NGRLFQGAIP FMKLQLVYAY
 801 HGDFKETTAD GRRFSNGSLT SISVPLGIRF EKLALSQDVL YDFSFSYIPD
 851 IFRKDPSCEA ALVISGDSWL VPAAHVSRHA FVGSGTGGRYH FNDYTELLCR
 901 GSIECRPHAR NYNINCGSKF RF

Possible T cell epitope:

146 ALMLLNYYV

Possible B cell epitope:

581 DKINYKPRPEKEG

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Figure 20: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 20; ORF: CPN100325

```

1 MPSSWKRLQ VLSHKIAATE SGGGIYAKDI QLQALPGSFT ITDNKVETSL
51 TTSTNLYGGG IYSSGAVTLT NISGTFGITG NSVINTATSQ DADIQGGGIY
101 ATTSLSINQC NTPILFSNNS AATKKTSTTK QIAGGAIFSA AVTIENNSQP
151 IIFLNNSAKS EATTAATAGN KDSCGGAIAA NSVTLTNPE ITFKGNYAET
201 GGAIGCIDLT NGSPPRKVS I ADNGSVLFQD NSALNRGGAI YGETIDISRT
251 GATFIGNSSK HDGSAICCST ALTLAPNSQL IFENNKVTET TATTKASINN
301 LGAAIYGNNE TSDVTISLSA ENGSIFFKNN LCTATNKYCS IAGNVKFTAI
351 EASAGKAISF YDAVNVPPKK QLLKS

```

Possible T cell epitope:

226 VLFQDNSAL

Possible B cell epitope:

257 NSSKHDG

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Figure 21: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 21; ORF: CPN100368

1 MKYSLPWLLT SSALVFSLHP LMAANTDLSS SDNYENGSSG SAAFTAKETS
 51 DASGTTYTLT SDVSITNVSA ITPADKSCFT NTGGALSFGV ADHSLVLQTI
 101 ALTHDGAAIN NTNTALSFSG FSSLLIDSAP ATGTSGGKGA ICVTNTEGGT
 151 ATFTDNASVT LQKNTSEKDG AAVSAYSIDL AKTTTAALLD QNTSTKNGGA
 201 LCSTANTTVQ GNSGTVTFSS NTATDKGGGI YSKEKDSTLD ANTGVVTFKS
 251 NTAKTGGAWS SDDNLALTGN TQVLFQENKT TGSAAQANNP EGCGGAICCY
 301 LATATDKTGL AISQEQEMSF TSNTTTANGG AIYATKCTLD GNTTLTFDQN
 351 TATAGCGGAI YTETEDFSLK GSTGTVTFST NTAKTGALY SKGNSSLTGN
 401 TNLLFSGNKA TGPSNSSANQ EGCGGAILAF IDSGSVSDKT GLSIANNQEV
 451 SLTSNAATVS GGAIYATKCT LTGNGLTFD GNTAGTSGGA IYTETEDFTL
 501 TGSTGTVTF SNTAKTGGA YSKGNNSLSG NTNLLFSGNK ATGPSNSSAN
 551 QEGCGGAILS FLESASVSTK KGLWIEDNEN VLSGNTATV SGGAIYATKC
 601 ALHGNTTLTF DGNTAETAGG AIYTETEDFT LTGSTGTVTF STNTAKTAGA
 651 LHTKGNTSFT KNKALVFSGN SATATATTTT DQEGCGGAIL CNISESDIAT
 701 KSLTLTENES LSPINNTAKR SGGGIYAPKC VISGSESINF DGNTAETSGG
 751 AIYSKNLSIT ANGPVSFTNN SGGKGGAIYI ADSGELSLEA IDGDITFSGN
 801 RATEGTSTPN SIHLGARGKI TKLAAAPGHT IYFYDPITME APASGGTIEE
 851 LVINPVVKAI VPPPQPKNGP I

Possible T cell epitope:

7 WLLTSSALV

Possible B cell epitopes:

162 QKNTSEKDG
 538 GNKATGPSNSSANQEG

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Figure 22: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 22; ORF: CPN100624

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1 MTNSIFISKF GCLCDPFVSA FYPTALCCSL SGNEVPNLAS CQMSRKDISA
51 FHTSPSFRLN VTPEPLVSSF RPSNLLNGFG HDITQDITIT GNSINSVIDY
101 NYHYEDGGIL ACKNLFISEN KGNLSFERN SSSGGALYS VRECWISKNO
151 NYSFISNAAS LATTTTSGFG GAIHALDSYI TNNLGEGQFL DNVSKNRGGA
201 IYVGVSLSIT DNLGPIVIK NQTLLEDSSFG GGIFCRAVNI ERNYQNIQIN
251 DNASGQGVVY FLPLGVIISS NKEIIIEISNH SASSINTASG KLYPGGGGIM
301 CTSLSHENNP KGLIFNNKTA ALSGGVYTRD LSSSKITVRT AFINNSATSG
351 GALINLSGIG STPONFFLSA DYGDILFN NN TITSSSPQPG YRNALYAAPG
401 INLKLGARQG YKILFYDPID HDQTTTDP IV FNYEPHHLGT VLFSGINVDS
451 NATNPLNFLS KFSNSSRLER GVLAIEDRAA ISCKTSLQ TG GILRLGNAAL
501 IRTKGPSSSI NFNAIAINLP SILOSEASAP KFWIYPTLTG STYSEDTSST
551 ITLSGPLTFL NDENENPYDS LDLSEPRKDI PPPLPPRCDC KKIDTSNLIV
601 EAMNLDEHYG YQGIWSPYWM ETTTTTSSTV PEQTNTNHRQ LYVDWTPVGY
651 RPNPERHGEF IANTLWQSAY NALLGIRILP PQNLKEHDLE ASLQGLGLLI
701 NQHNREGRKG FRNHTTG YAA TTS AKTAARH SFSLGFAQMF SKTRERQSPS
751 TTSSHNYFAG LRFDSLLFRD FISTGLSLGY SYGDHMLCH YTEILKGSSK
801 AFFNNHTLVA SLDCTFLPAR ITRTLELQPF ISAIALRCSQ ASFQETGDHI
851 RKFH PKHPLT DLSSPIGFRS EWKTSHHIPM LWTTEISYVP TLYRKNPEMF
901 TTLLISNGTW TQATPVSYN SVA AKIKNTS QLFSRVTL SL DYS AQVSSST
951 VGQYLKAESH CTF

```

Possible T cell epitope:

640 QLYVDWTPV

Possible B cell epitopes:

701 NQHNREGRKGFRNHTTG

741 SKTRERQSPSTTSSHNY

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Figure 23: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 23; ORF: CPN100633

1 MTILRNFLTC SALFLALPAA AQVVYLHESD GYNGAINNKS LEPKITCYPE
51 GTSYIFLDDV RISNVKHDQE DAGVFINRSG NLFFMGNRCN FTFHNLMTG
101 FGAAISNRVG DTTLTLSNFS YLAFTSAPLL PQQGAIYSL GSVMIENSEE
151 VTFCGNYSSW SGAAIYTPYL LGSKASRPSV NLSGNRYLVF RDNVSQVYGG
201 AISTHNLTLT TRGPSCFENN HAYHDVNSNG GAIAIAPGGS ISISVKSDDL
251 IFKGNTASQD GNTIHNSIHL QSGAQFKNLR AVSESGVYFY DPISHSESHK
301 ITDLVINAPE GKETYEGTIS FSGLCDDHE VCAENLTSTI LQDVTLAGGT
351 LSLSDGVTLO LHSFKQEASS TLTMSPGTTL LCSGDARVQN LHILIEDTDN
401 FVPVRIRAEK KDALVSLEKL KVAFEAYWSV YDFPQFKEAF TIPLLELLGP
451 SFDSLLLGET TLERTQVTTE NDAVRGFWSL SWEEYPPSLD KDRRITPTKK
501 TVFLTWNPEI TSTP

Possible T cell epitope:

640 QLYVDWTPV

Possible B cell epitope:

482 WEEYPPSLDKDRRITPTKK

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Figure 24: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 24; ORF: cpn100985

1 MGISLPELFS NLGSAYLDYI FQHPPAYVWS VFLLLLARLL PIFAVAPFLG
51 AKLFPSPIKI GISLSWLAI I FPKVLADTQI TNYMDNNLFY VLLVKEMIIG
101 IVIGFVLAFF FYAAQSAGSF ITNQGGIOGL EGATSLISIE QTSPHGILYH
151 YFVTIIFWL V GGHRIVISLL LQTLEVIPIH SFFPAEMMSL SAPIWITMIK
201 MCQLCLVMTI QLSAPAALAM LMSDLFLGII NRMAPQVQVI YLLSALKAFM
251 GLLFLT LAW W FIIKQIDYFT LAWFKEVPIM LLGSNPQVL

Possible T cell epitope:

83 YMDNNLFYV

Possible B cell epitope:

78 TQITNYMDNN

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Figure 26: Identification of T- and B-cell epitopes from the amino acid sequences SEQ ID No. 26; ORF: cpn100988

1 MLAFFATSEFK SVLFEYSYQS LLLILIVSAP PIILASIVGI MVAIFQAATQ
51 IQEQTFAFAV KLVVIFGTLM ISGGWLSNMI LRFAGQIFQN FYKWK

Possible T cell epitope:

21 LLLILIVSA

Possible B cell epitope:

89 QNFKYKWK

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